A Few Words About Safety

SERVICE INFORMATION

The service and repair information contained in this manual is intended for use by qualified, professional technicians. Attempting service or repairs without the proper training, tools, and equipment could cause injury to you and/or others. It could also damage this Honda product or create an unsafe condition.

This manual describes the proper methods and procedures for performing service, maintenance, and repairs. Some procedures require the use special tools. Any person who intends to use a replacement part, service procedure, or a tool that is not recommended by Honda must determine the risks to their personal safety and the safe operation of this product.

If you need to replace a part, use Honda Genuine parts with the correct part number or an equivalent part. We strongly recommend that you do not use replacement parts of inferior quality.

For Your Customer's Safety

Proper service and maintenance are essential to the customer's safety and the reliability of this product. Any error or oversight while servicing this product can result in faulty operation, damage to the product, or injury to others.

⚠WARNING

Improper service or repairs can create an unsafe condition that can cause your customer or others to be seriously hurt or killed.

Follow the procedures and precautions in this manual and other service materials carefully.

For Your Safety

Because this manual is intended for the professional service technician, we do not provide warnings about many basic shop safety practices (e.g., Hot parts-wear gloves). If you have not received shop safety training or do not feel confident about your knowledge of safe servicing practices, we recommend that you do not attempt to perform the procedures described in this manual.

Some of the most important general service safety precautions are given below. However, we cannot warn you of every conceivable hazard that can arise in performing service and repair procedures. Only you can decide whether or not you should perform a given task.

⚠WARNING

Failure to properly follow instructions and precautions can cause you to be seriously hurt or killed.

Follow the procedures and precautions in this manual carefully.

Important Safety Precautions

Make sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and using safety equipment. When performing any service task, be especially careful of the following:

- Read all of the instructions before you begin, and make sure you have the tools, the replacement or repair parts, and the skills required to perform the tasks safely and completely.
- Protect your eyes by using proper safety glasses, goggles, or face shields anytime you hammer, drill, grind, or work around pressurized air, pressurized liquids, springs, or other stored-energy components. If there is any doubt, put on eye protection.
- Use other protective wear when necessary, for example gloves or safety shoes. Handling hot or sharp parts can cause severe burns or cuts. Before you grab something that looks like it can hurt you, stop and put on gloves.
- Protect yourself and others whenever you have equipment hoisted in the air. Anytime you lift this product with a hoist, make sure that the hoist hook is securely attached to the product.

Make sure the engine is off before you begin any servicing procedures, unless the instruction tells you to do otherwise. This will help eliminate several potential hazards:

- Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever you run the engine.
- Burns from hot parts. Let the engine and exhaust system cool before working in those areas.
- Injury from moving parts. If the instruction tells you to run the engine, be sure your hands, fingers and clothing are out of the way.

Gasoline vapors and hydrogen gasses from batteries are explosive. To reduce the possibility of a fire or explosion, be careful when working around gasoline or batteries.

- Use only a nonflammable solvent, not gasoline, to clean parts.
- Never store gasoline in an open container.
- Keep all cigarettes, sparks, and flames away from the battery and all fuel-related parts.

CONTENTS

INTRODUCTION

This manual covers the service and repair procedures for the Honda EG3600CX/EG4000CX/EG4500CX/EG5000CX/EG5500CX/EG6500CX/EG5500CXS/EG6500CXS generators.

All information contained in this manual is based on the latest product information available at the time of printing. We reserve the right to make changes at anytime without notice.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of the publisher. This includes text, figures, and tables.

As you read this manual, you will find information that is preceded by a NOTICE symbol. The purpose of this message is to help prevent damage to this Honda product, other property, or the environment.

SAFETY MESSAGES

Your safety and the safety of others are very important. To help you make informed decisions, we have provided safety messages and other safety information throughout this manual. Of course, it is not practical or possible to warn you about all the hazards associated with servicing these products. You must use your own good judgement.

You will find important safety information in a variety of forms, including:
- Safety Labels – on the product.
- Safety Messages – preceded by a safety alert symbol ⚠ and one of three signal words, DANGER, WARNING, or CAUTION. These signal words mean:

⚠DANGER You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.

⚠WARNING You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

⚠CAUTION You CAN be HURT if you don't follow instructions.

- Instructions – how to service these products correctly and safely.

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SERVICE RULES

- Use Honda Genuine or Honda-recommended parts and lubricants or their equivalents. Parts that do not meet Honda's design specifications may damage the unit.
- Use the special tools designed for the product.
- Install new gaskets, O-rings, etc. when reassembling.
- When torquing bolts or nuts, begin with larger-diameter or inner bolts first and tighten to the specified torque diagonally, unless a particular sequence is specified.
- Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before assembly.
- After assembly, check all parts for proper installation and operation.
- Many screws used in this machine are self-tapping. Be aware that cross-threading or overtightening these screws will strip the threads and ruin the hole.

Use only metric tools when servicing this unit. Metric bolts, nuts and screws are not interchangeable with non-metric fasteners. The use of incorrect tools and fasteners will damage the unit.

SYMBOLS

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it will be explained specifically in the text without the use of the symbols.

	Replace the part(s) with new one(s) before assembly.
	Use the recommend engine oil, unless otherwise specified.
	Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1:1).
	Use multi-purpose grease (lithium based multi-purpose grease NLGI #2 or equivalent).
	Use marine grease (water resistant urea based grease).
	Apply a locking agent. Use a medium strength locking agent unless otherwise specified.
	Apply sealant.
	Use automatic transmission fluid.
○ x ○ (○)	Indicates the diameter, length, and quantity of metric bolts used.
page 1-1	Indicates the reference page.

ABBREVIATIONS

Throughout this manual, the following abbreviations are used to identify the respective parts or systems.

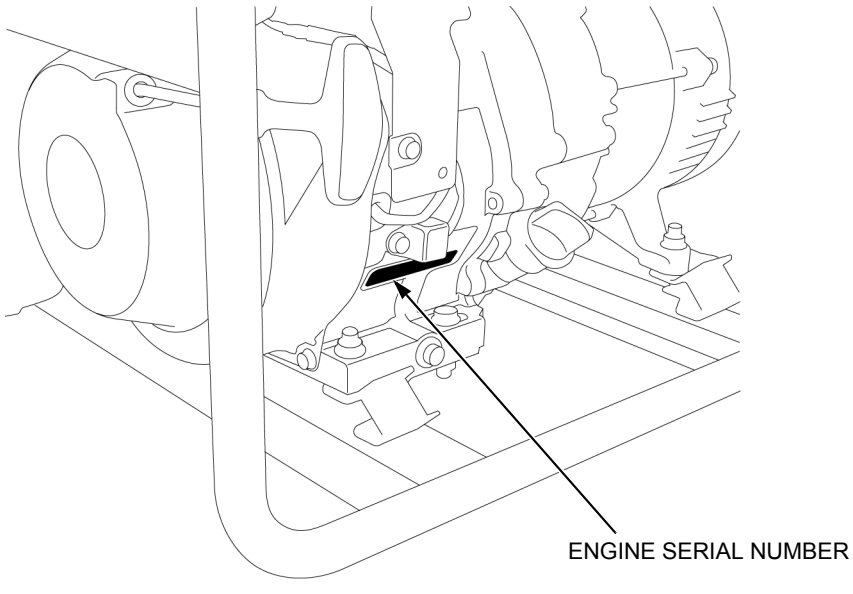
Abbreviated term	Full term
ACG	Alternator
API	American Petroleum Institute
Approx.	Approximately
Assy.	Assembly
ATDC	After Top Dead Center
ATF	Automatic Transmission Fluid
ATT	Attachment
AVR	Auto Voltage Regulator
BAT	Battery
BDC	Bottom Dead Center
BTDC	Before Top Dead Center
BARO	Barometric Pressure
CKP	Crankshaft Position
Comp.	Complete
CMP	Camshaft Position
CYL	Cylinder
DLC	Data Link Connector
D-AVR	Digital Auto Voltage Regulator
EBT	Engine Block Temperature
ECT	Engine Coolant Temperature
ECM	Engine Control Module
EMT	Exhaust Manifold Temperature
EOP	Engine Oil Pressure
EX	Exhaust
F	Front or Forward
GND	Ground
HO2S	Heated Oxygen sensor
IAB	Intake Air Bypass
IAC	Idle Air Control
IAT	Intake Air Temperature
I.D.	Inside diameter
IG or IGN	Ignition
IN	Intake
INJ	Injection
L.	Left
MAP	Manifold Absolute Pressure
MIL	Malfunction Indicator Lamp
O.D.	Outside Diameter
OP	Optional Part
PGM-FI	Programmed-Fuel Injection
P/N	Part Number
Qty	Quantity
R.	Right
SAE	Society of Automotive Engineers
SCS	Service Check Signal
STD	Standard
SW	Switch
TDC	Top Dead Center

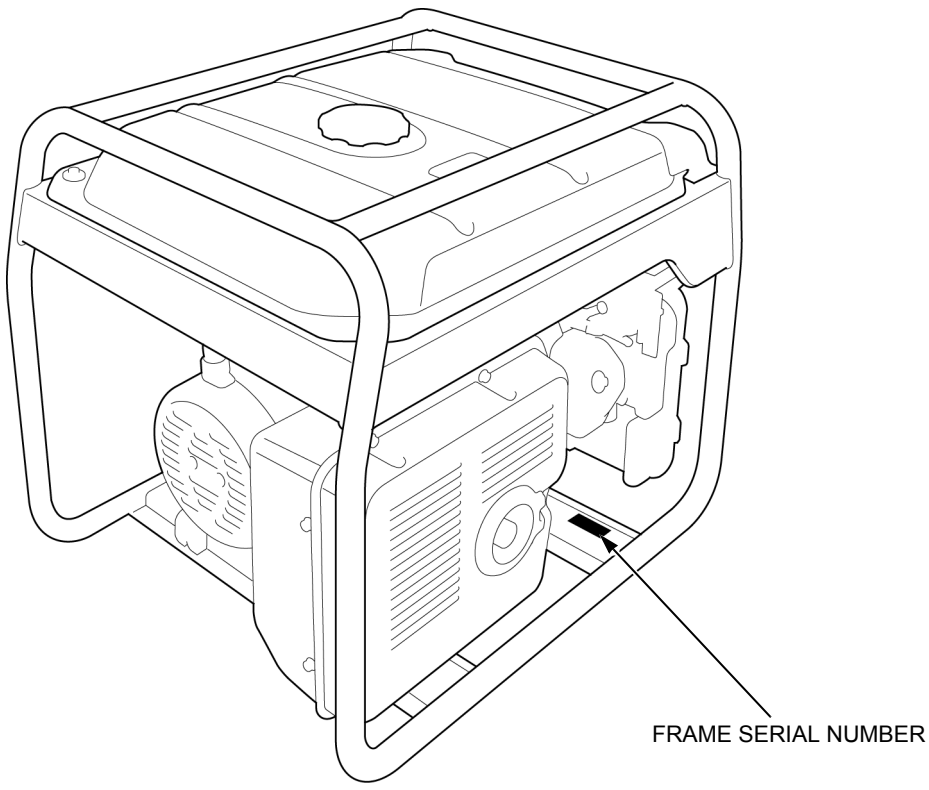
Bl	Black	G	Green	Br	Brown	Lg	Light green
Y	Yellow	R	Red	O	Orange	P	Pink
BU	Blue	W	White	Lb	Light blue	Gr	Gray

1. SPECIFICATIONS

SERIAL NUMBER LOCATION

The engine serial number is stamped on the cylinder barrel, and the frame serial number is stamped on the engine bed.
Refer to it when ordering parts or making technical inquiries.





SPECIFICATIONS

EG3600CX/EG4000CX

DIMENSIONS AND WEIGHTS

Model	EG3600CX	EG4000CX
Type	UH	RHH, KH, MH, RH, LDH
Description code	EBHC	
Overall length	681 mm (26.8 in)	
Overall width	530 mm (20.9 in)	
Overall height	571 mm (22.5 in)	
Dry weight	71.0 kg (156.5 lbs)	
Operating weight	89.5 kg (197.3 lbs)	

ENGINE

Model	GX270H
Description code	GCADH
Type	4 stroke, overhead valve, single cylinder, inclined by 25°
Displacement	270 cm^3 (16.5 cu–in)
Bore x stroke	77.0 x 58.0 mm (3.03 x 2.28 in)
Compression ratio	8.3 ± 0.3
Ignition system	Transistor magneto ignition
Ignition timing	B.T.D.C. 20° ± 2 at no load
Spark plug	BPR5ES (NGK)
Lubrication system	Forced spray
Oil capacity	1.1 ℓ (1.2 US qt, 1.0 Imp qt)
Recommended oil	SAE 10W – 30 API service classification SE or later
Cooling system	Forced air
Starting system	Recoil starter
Stopping system	Ignition primary circuit ground
Carburetor	Horizontal type, butterfly valve
Air cleaner	Semi-dry type
Governor	Mechanical centrifugal
Breather system	Flat valve type
Fuel used	Regular unleaded gasoline with a pump octane rating 86 or higher

SPECIFICATIONS

GENERATOR

Model		EG3600CX	EG4000CX		
Type		UH	RHH	KH, MH, RH	LDH
Description code		EBHC			
Generator type		Double electrode field rotation type			
Excitation		Self–excitation			
Voltage regulation system		Digital AVR (Automatic Voltage Regulator)			
Phase		Single phase			
Rotating direction		Counterclockwise (Viewed from the generator)			
Rated output	AC	3200 VA			3600 VA
	DC	100 W	–	100 W	
Rated frequency		50 Hz			60 Hz
AC	Rated voltage	240 V	230 V	220 V	120 V / 240 V
	Rated current	13.3 A	13.9 A	14.5 A	30.0 A / 15.0 A
DC	Rated voltage	12 V	–	12 V	
	Rated current	8.3 A	–	8.3 A	
Power factor		1.0 Cosθ			

CHARACTERISTICS

Model		EG3600CX	EG4000CX		
Type		UH	RHH	KH, MH, RH	LDH
Voltage variation rate	Momentary	20% max.			
	Average	7% max.			
	Average time	5 sec. max.			
Voltage stability		± 1% max.			
Frequency variation rate	Momentary	15% max.			
	Average	7% max.			
	Average time	5 sec. max.			
Frequency stability		1 Hz max.			
Insulation resistance		10 MΩ min.			
AC circuit protector		15 A	16 A		17 A x 2
DC circuit protector		12 A	–	12 A	
Insulation type		Type B			
Fuel tank capacity		24.0 ℓ (6.34 US gal, 5.28 Imp gal)			
Fuel consumption at rated load		2.02 ℓ (0.534 US gal, 0.444 Imp gal) /Hr.			2.50 ℓ (0.661 US gal, 0.550 Imp gal) /Hr.
Max. operating hours at rated load		11.9 Hr.			9.6 Hr.
Guaranteed sound power level (L_{WA}) at rated load		L_{WA} 97 dB(A)			L_{WA} 99 dB(A)

EG4500CX/EG5000CX

DIMENSIONS AND WEIGHTS

Model	EG4500CX	EG5000CX
Type	UH, RGH	RHH, KH, MH, RH, LDH, SH, SKH
Description code	EBFC	
Overall length	681 mm (26.8 in)	
Overall width	530 mm (20.9 in)	
Overall height	571 mm (22.5 in)	
Dry weight	82.5 kg (181.9 lbs)	
Operating weight	101.0 kg (222.7 lbs)	

ENGINE

Model	GX340H1
Description code	GCAEH
Type	4 stroke, overhead valve, single cylinder, inclined by 25°
Displacement	337 cm^3 (20.6 cu–in)
Bore x stroke	82.0 x 64.0 mm (3.23 x 2.52 in)
Compression ratio	8.0 ± 0.2
Ignition system	Transistor magneto ignition
Ignition timing	B.T.D.C. 25° ± 2 at no load
Spark plug	BPR5ES (NGK)
Lubrication system	Forced spray
Oil capacity	1.1 ℓ (1.2 US qt, 1.0 Imp qt)
Recommended oil	SAE 10W – 30 API service classification SE or later
Cooling system	Forced air
Starting system	Recoil starter
Stopping system	Ignition primary circuit ground
Carburetor	Horizontal type, butterfly valve
Air cleaner	Semi-dry type
Governor	Mechanical centrifugal
Breather system	Flat valve type
Fuel used	Regular unleaded gasoline with a pump octane rating 86 or higher

SPECIFICATIONS

GENERATOR

Model		EG4500CX		EG5000CX			
Type		UH	RGH	RHH	KH, MH, RH	LDH	SH, SKH
Description code		EBFC					
Generator type		Double electrode field rotation type					
Excitation		Self–excitation					
Voltage regulation system		Digital AVR (Automatic Voltage Regulator)					
Phase		Single phase					
Rotating direction		Counterclockwise (Viewed from the generator)					
Rated output	AC	4000 VA				4500 VA	
	DC	100 W		–	100 W		
Rated frequency		50 Hz				60 Hz	
AC	Rated voltage	240 V	230 V		220 V	120 V / 240 V	220 V
	Rated current	16.7 A	17.4 A		18.2 A	37.5 A / 18.8 A	20.5 A
DC	Rated voltage	12 V		–	12 V		
	Rated current	8.3 A		–	8.3 A		
Power factor		1.0 Cosθ					

CHARACTERISTICS

Model		EG4500CX		EG5000CX			
Type		UH	RGH	RHH	KH, MH, RH	LDH	SH, SKH
Voltage variation rate	Momentary	20% max.					
	Average	7% max.					
	Average time	5 sec. max.					
Voltage stability		± 1% max.					
Frequency variation rate	Momentary	15% max.					
	Average	7% max.					
	Average time	5 sec. max.					
Frequency stability		1 Hz max.					
Insulation resistance		10 MΩ min.					
AC circuit protector		19 A	20 A			21 A x 2	23 A
DC circuit protector		12 A		–	12 A		
Insulation type		Type B					
Fuel tank capacity		24.0 ℓ (6.34 US gal, 5.28 Imp gal)					
Fuel consumption at rated load		2.53 ℓ (0.668 US gal, 0.557 Imp gal) /Hr.				2.82 ℓ (0.745 US gal, 0.620 Imp gal) /Hr.	
Max. operating hours at rated load		9.5 Hr.				8.5 Hr.	
Guaranteed sound power level (L_{WA}) at rated load		L_{WA} 98 dB(A)				L_{WA} 101 dB(A)	

EG5500CX/EG6500CX

DIMENSIONS AND WEIGHTS

Model	EG5500CX	EG6500CX
Type	UH	RHH, KH, MH, RH, LDH, LTH, SH, SKH
Description code	EBCC	
Overall length	681 mm (26.8 in)	
Overall width	530 mm (20.9 in)	
Overall height	571 mm (22.5 in)	
Dry weight	84.0 kg (185.2 lbs)	
Operating weight	102.5 kg (226.0 lbs)	

ENGINE

Model	GX390H1
Description code	GCAFH
Type	4 stroke, overhead valve, single cylinder, inclined by 25°
Displacement	389 cm^3 (23.7 cu–in)
Bore x stroke	88.0 x 64.0 mm (3.46 x 2.52 in)
Compression ratio	8.0 ± 0.2
Ignition system	Transistor magneto ignition
Ignition timing	B.T.D.C. 25° ± 2 at no load
Spark plug	BPR5ES (NGK)
Lubrication system	Forced spray
Oil capacity	1.1 ℓ (1.2 US qt, 1.0 Imp qt)
Recommended oil	SAE 10W – 30 API service classification SE or later
Cooling system	Forced air
Starting system	Recoil starter
Stopping system	Ignition primary circuit ground
Carburetor	Horizontal type, butterfly valve
Air cleaner	Semi-dry type
Governor	Mechanical centrifugal
Breather system	Flat valve type
Fuel used	Regular unleaded gasoline with a pump octane rating 86 or higher

SPECIFICATIONS

GENERATOR

Model		EG5500CX	EG6500CX			
Type		UH	RHH	KH, MH, RH	LDH, LTH	SH, SKH
Description code		EBCC				
Generator type		Double electrode field rotation type				
Excitation		Self–excitation				
Voltage regulation system		Digital AVR (Automatic Voltage Regulator)				
Phase		Single phase				
Rotating direction		Counterclockwise (Viewed from the generator)				
Rated output	AC	5000 VA			5500 VA	
	DC	100 W	–	100 W		
Rated frequency		50 Hz			60 Hz	
AC	Rated voltage	240 V	230 V	220 V	120 V / 240 V	220 V
	Rated current	20.8 A	21.7 A	22.7 A	45.8 A / 22.9 A	25 A
DC	Rated voltage	12 V	–	12 V		
	Rated current	8.3 A	–	8.3 A		
Power factor		1.0 Cosθ				

CHARACTERISTICS

Model		EG5500CX	EG6500CX			
Type		UH	RHH	KH, MH, RH	LDH, LTH	SH, SKH
Voltage variation rate	Momentary	20% max.				
	Average	7% max.				
	Average time	5 sec. max.				
Voltage stability		± 1% max.				
Frequency variation rate	Momentary	15% max.				
	Average	7% max.				
	Average time	5 sec. max.				
Frequency stability		1 Hz max.				
Insulation resistance		10 MΩ min.				
AC circuit protector		23 A	24 A	25 A	27 A x 2	30 A
DC circuit protector		12 A	–	12 A		
Insulation type		Type B				
Fuel tank capacity		24.0 ℓ (6.34 US gal, 5.28 Imp gal)				
Fuel consumption at rated load		2.97 ℓ (0.785 US gal, 0.653 Imp gal) /Hr.			3.41 ℓ (0.901 US gal, 0.750 Imp gal) /Hr.	
Max. operating hours at rated load		8.1 Hr.			7.0 Hr.	
Guaranteed sound power level (L_{WA}) at rated load		L_{WA} 99 dB(A)			L_{WA} 102 dB(A)	

EG5500CXS/EG6500CXS

DIMENSIONS AND WEIGHTS

Model	EG5500CXS	EG6500CXS
Type	UH, RGH	RHH, KH, MH, RH, LDH, LTH, SH, SKH
Description code	EBDC	
Overall length	844 mm (33.2 in)	
Overall width	530 mm (20.9 in)	
Overall height	571 mm (22.5 in)	
Dry weight	87.0 kg (191.8 lbs)	
Operating weight	105.5 kg (232.6 lbs)	

ENGINE

Model	GX390H1
Description code	GCAFH
Type	4 stroke, overhead valve, single cylinder, inclined by 25°
Displacement	389 cm^3 (23.7 cu–in)
Bore x stroke	88.0 x 64.0 mm (3.46 x 2.52 in)
Compression ratio	8.0 ± 0.2
Ignition system	Transistor magneto ignition
Ignition timing	B.T.D.C. 25° ± 2 at no load
Spark plug	BPR5ES (NGK)
Lubrication system	Forced spray
Oil capacity	1.1 ℓ (1.2 US qt, 1.0 Imp qt)
Recommended oil	SAE 10W – 30 API service classification SE or later
Cooling system	Forced air
Starting system	Recoil starter, Starter motor
Stopping system	Ignition primary circuit ground
Carburetor	Horizontal type, butterfly valve
Air cleaner	Semi-dry type
Governor	Mechanical centrifugal
Breather system	Flat valve type
Fuel used	Regular unleaded gasoline with a pump octane rating 86 or higher

SPECIFICATIONS

GENERATOR

Model		EG5500CXS		EG6500CXS			
Type		UH	RGH	RHH	KH, MH, RH	LDH, LTH	SH, SKH
Description code		EBDC					
Generator type		Double electrode field rotation type					
Excitation		Self–excitation					
Voltage regulation system		Digital AVR (Automatic Voltage Regulator)					
Phase		Single phase					
Rotating direction		Counterclockwise (Viewed from the generator)					
Rated output	AC	5000 VA				5500 VA	
	DC	100 W		–		100 W	
Rated frequency		50 Hz				60 Hz	
AC	Rated voltage	240 V	230 V		220 V	120 V / 240 V	220 V
	Rated current	20.8 A	21.7 A		22.7 A	45.8 A / 22.9 A	25 A
DC	Rated voltage	12 V		–		12 V	
	Rated current	8.3 A		–		8.3 A	
Power factor		1.0 Cosθ					

CHARACTERISTICS

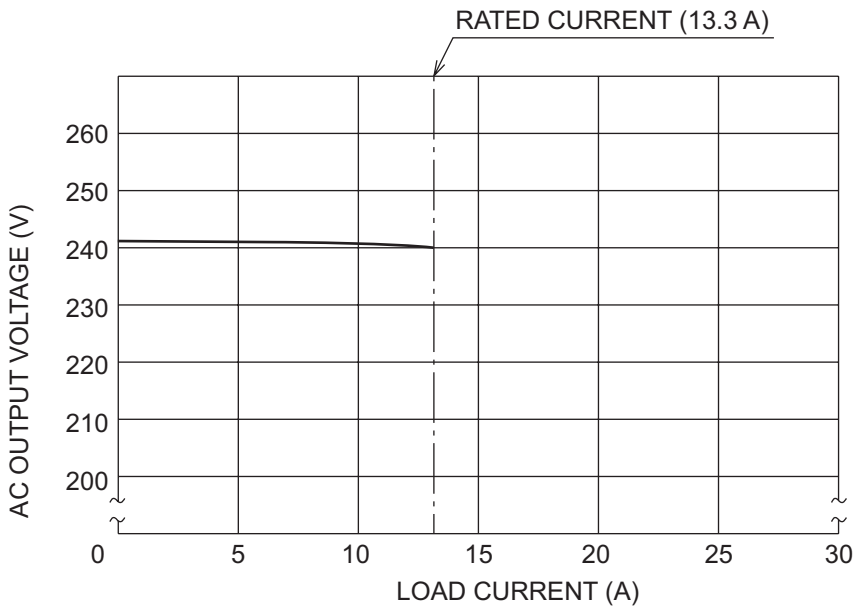
Model		EG5500CXS		EG6500CXS			
Type		UH	RGH	RHH	KH, MH, RH	LDH, LTH	SH, SKH
Voltage variation rate	Momentary	20% max.					
	Average	7% max.					
	Average time	5 sec. max.					
Voltage stability		± 1% max.					
Frequency variation rate	Momentary	15% max.					
	Average	7% max.					
	Average time	5 sec. max.					
Frequency stability		1 Hz max.					
Insulation resistance		10 MΩ min.					
AC circuit protector		23 A	24 A		25 A	27 A x 2	30 A
DC circuit protector		12 A		–		12 A	
Insulation type		Type B					
Fuel tank capacity		24.0 ℓ (6.34 US gal, 5.28 Imp gal)					
Fuel consumption at rated load		2.97 ℓ (0.785 US gal, 0.653 Imp gal) /Hr.				3.41 ℓ (0.901 US gal, 0.750 Imp gal) /Hr.	
Max. operating hours at rated load		8.1 Hr.				7.0 Hr.	
Guaranteed sound power level (L_{WA}) at rated load		L_{WA} 99 dB(A)				L_{WA} 102 dB(A)	

PERFORMANCE CURVES

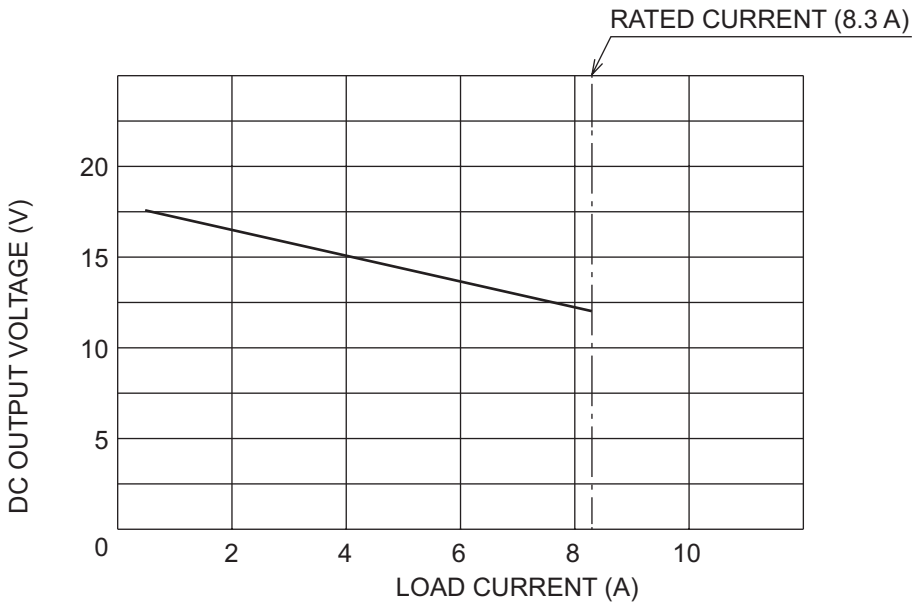
– The curve shows performance of the generator under average conditions.
– Performance may vary to some degree depending on ambient temperature and humidity.
– The output voltage will be higher than usual when the generator is still cold, immediately after the engine starts.

EG3600CX UH type

AC EXTERNAL CHARACTERISTIC CURVES



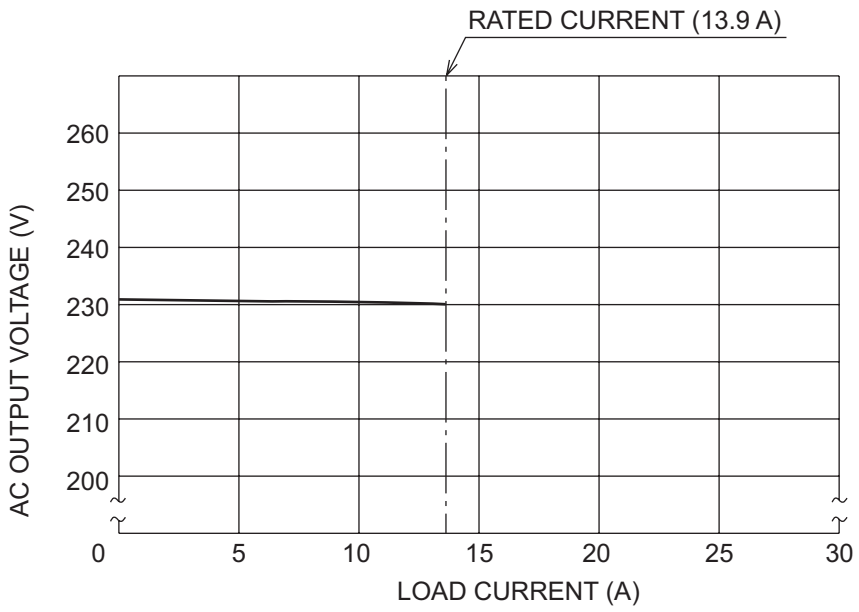
DC EXTERNAL CHARACTERISTIC CURVE



*This DC output characteristic was measured with the condition that condensers (200,000 µF) were parallel-connected.

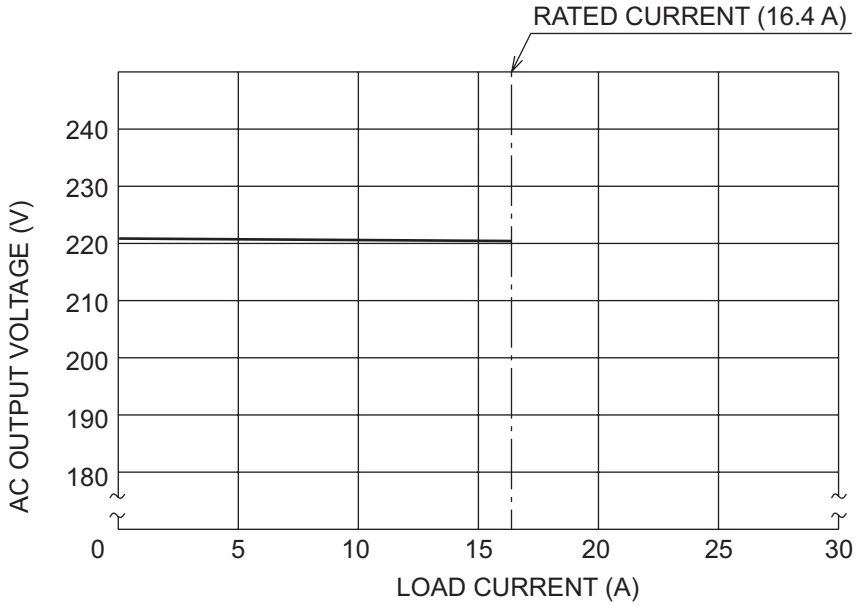
EG4000CX RHH type

AC EXTERNAL CHARACTERISTIC CURVES

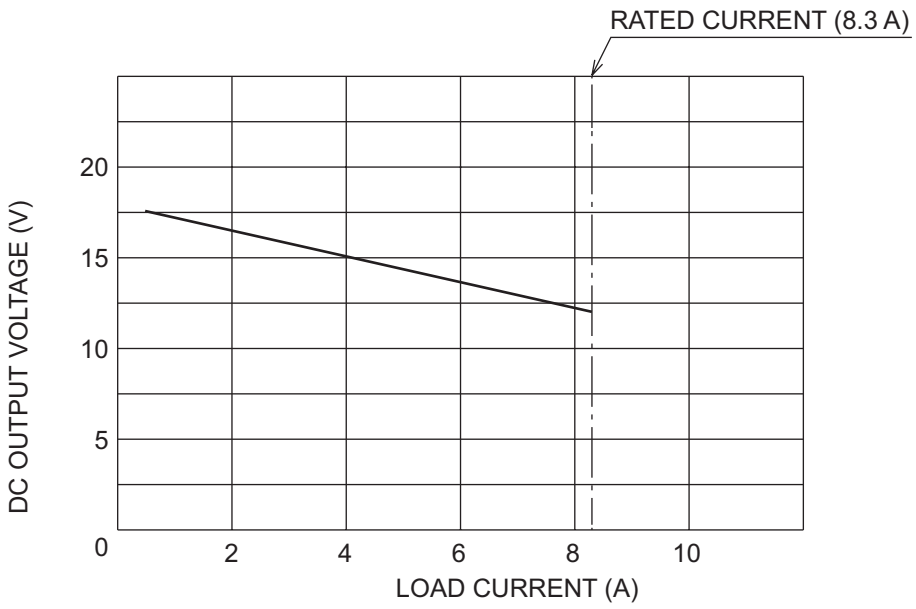


EG4000CX KH/MH/RH type

AC EXTERNAL CHARACTERISTIC CURVES



DC EXTERNAL CHARACTERISTIC CURVE

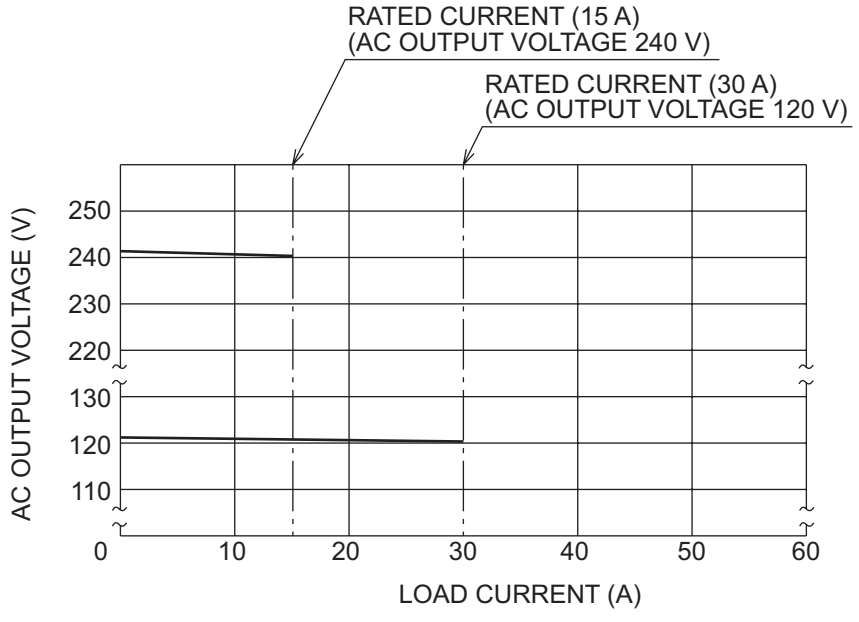


*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

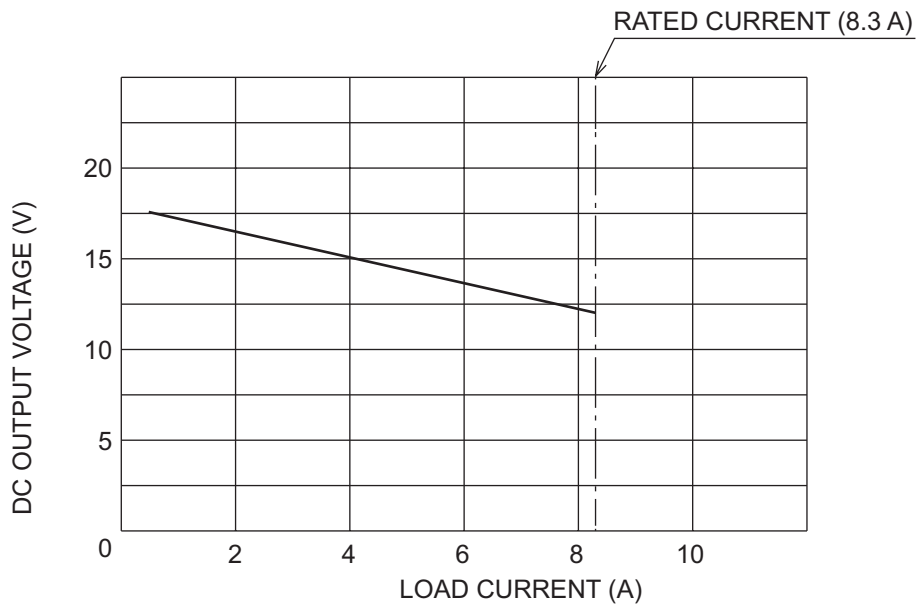
SPECIFICATIONS

EG4000CX LDH type

AC EXTERNAL CHARACTERISTIC CURVES



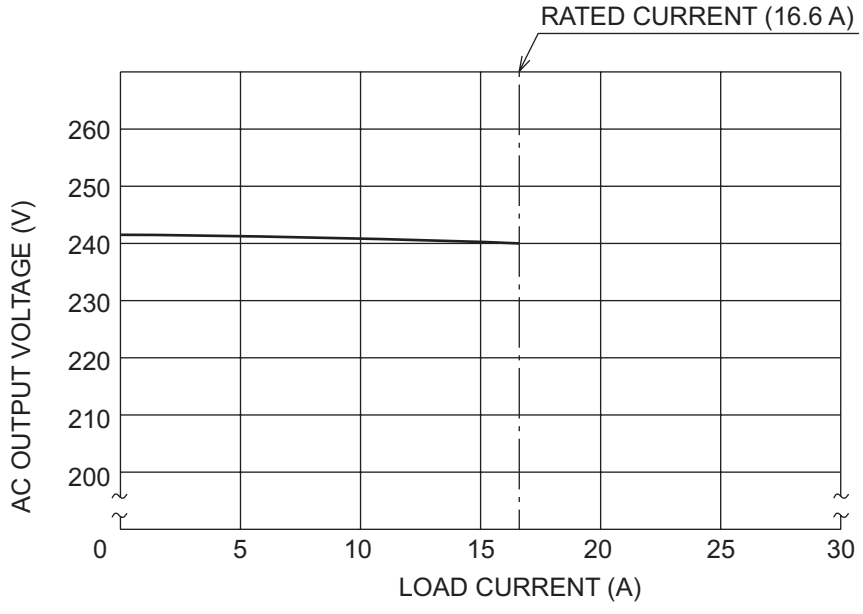
DC EXTERNAL CHARACTERISTIC CURVE



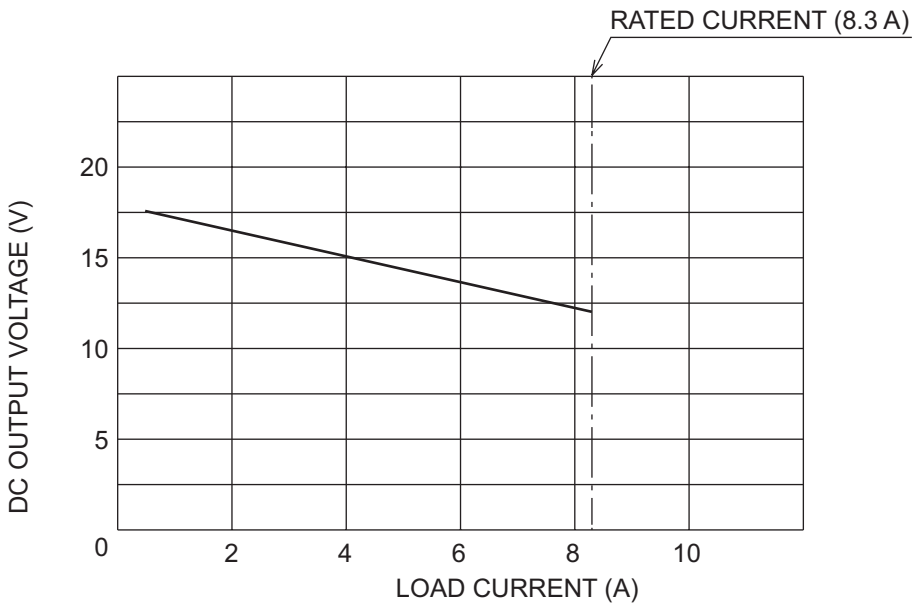
*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

EG4500CX UH type

AC EXTERNAL CHARACTERISTIC CURVES



DC EXTERNAL CHARACTERISTIC CURVE

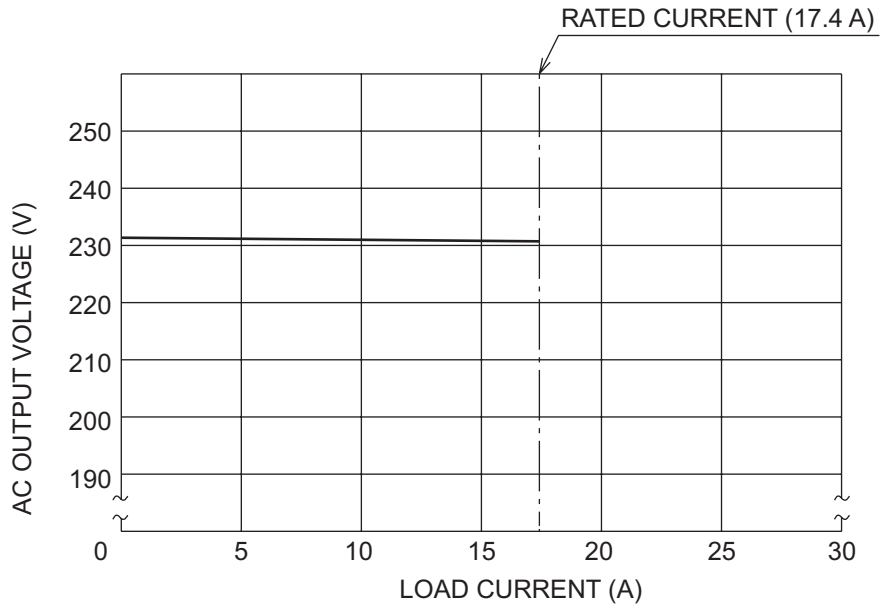


*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

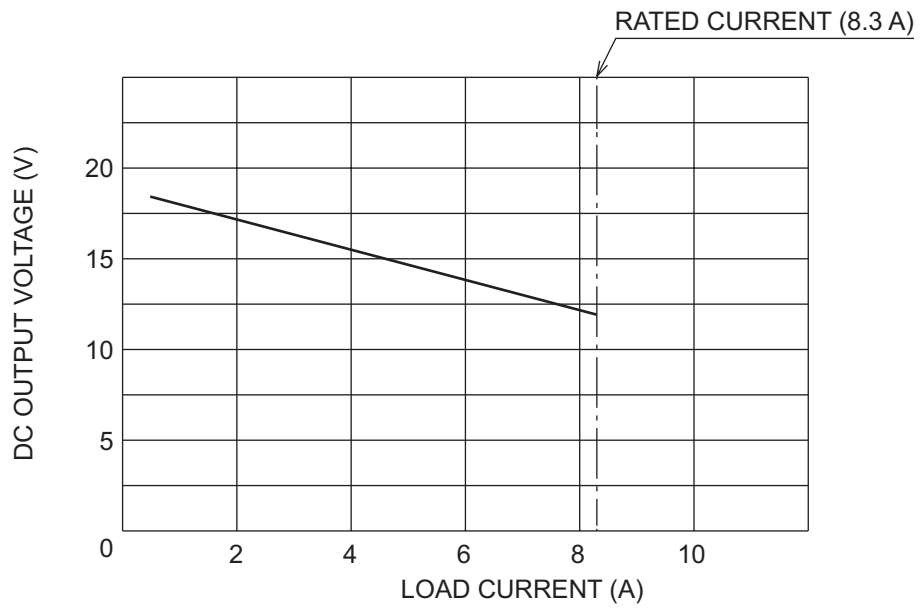
SPECIFICATIONS

EG4500CX RGH type/EG5000CX RHH type

AC EXTERNAL CHARACTERISTIC CURVES



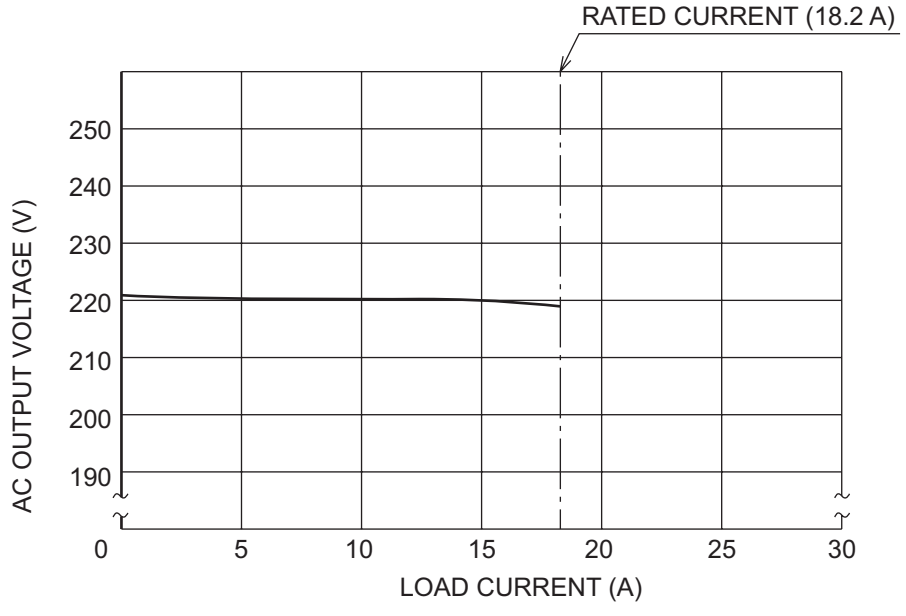
DC EXTERNAL CHARACTERISTIC CURVE (EG4500CX RGH type only)



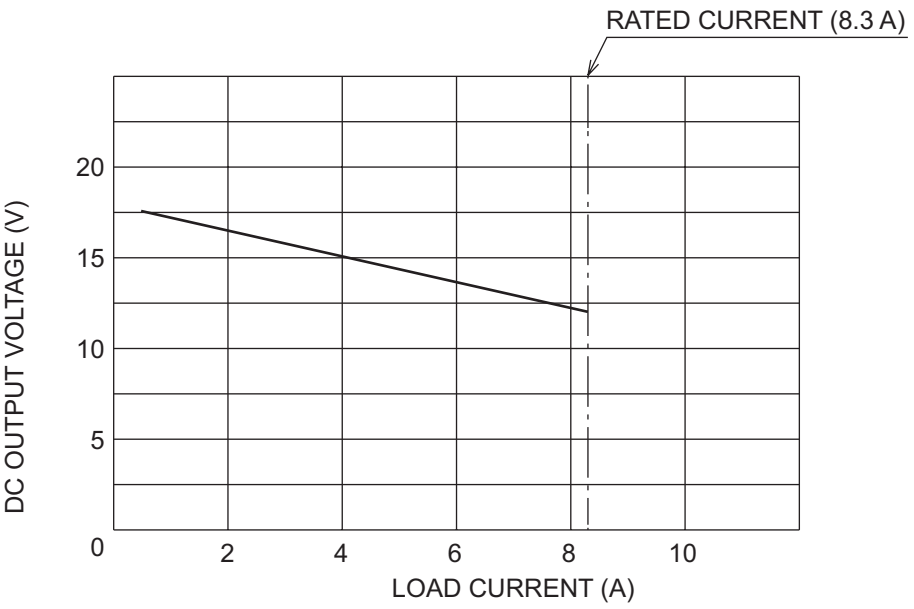
*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

EG5000CX KH/MH/RH type

AC EXTERNAL CHARACTERISTIC CURVES



DC EXTERNAL CHARACTERISTIC CURVE

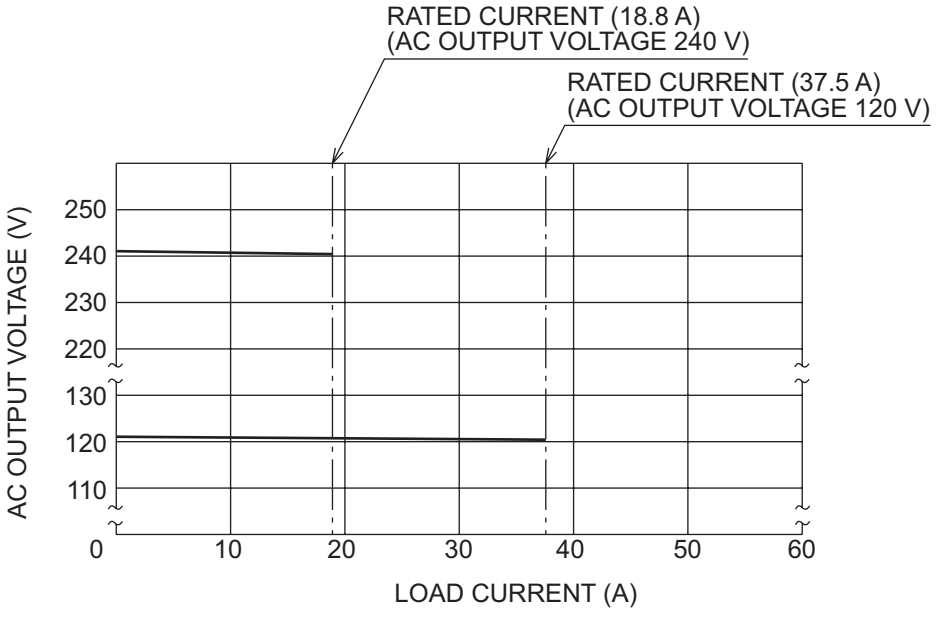


*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

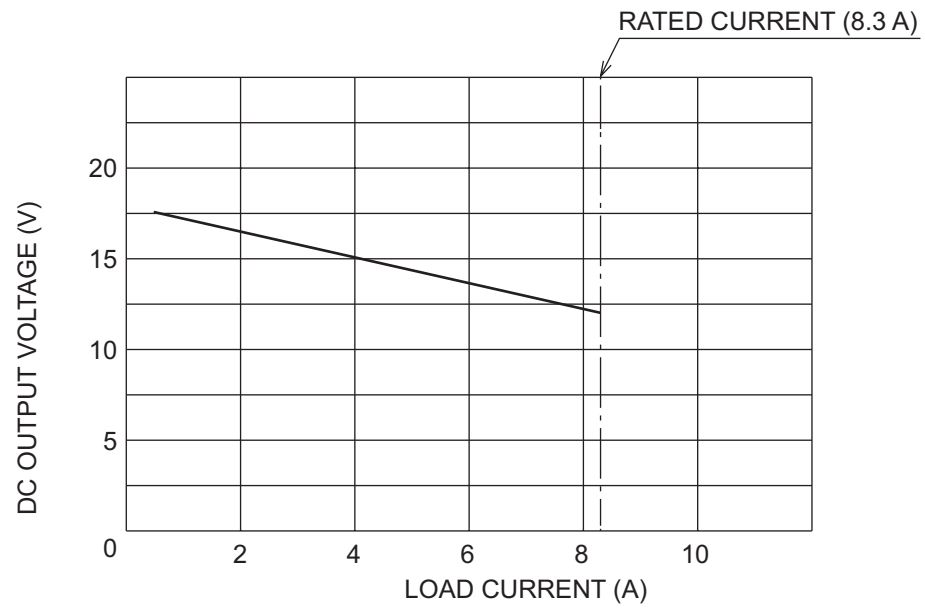
SPECIFICATIONS

EG5000CX LDH type

AC EXTERNAL CHARACTERISTIC CURVES



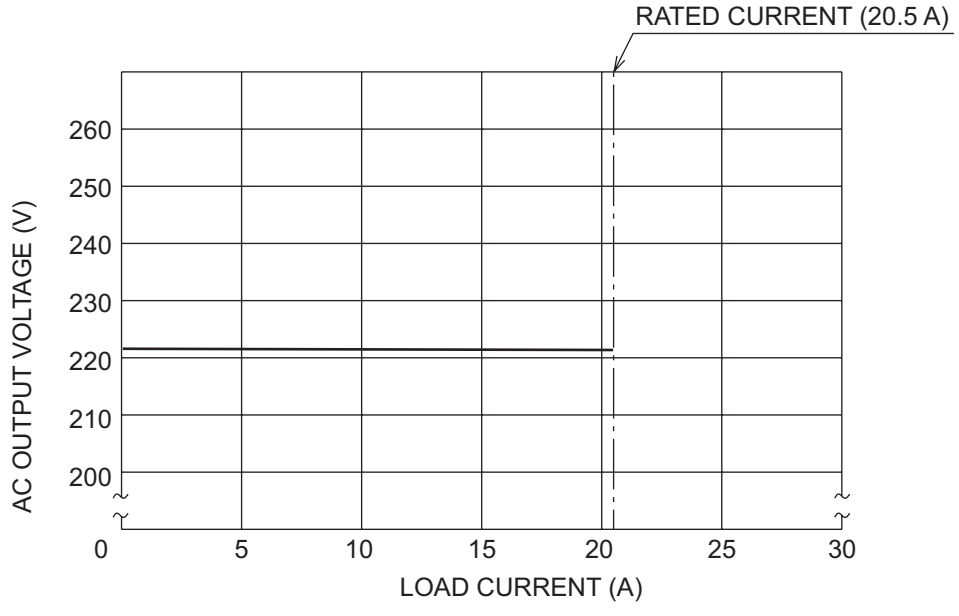
DC EXTERNAL CHARACTERISTIC CURVE



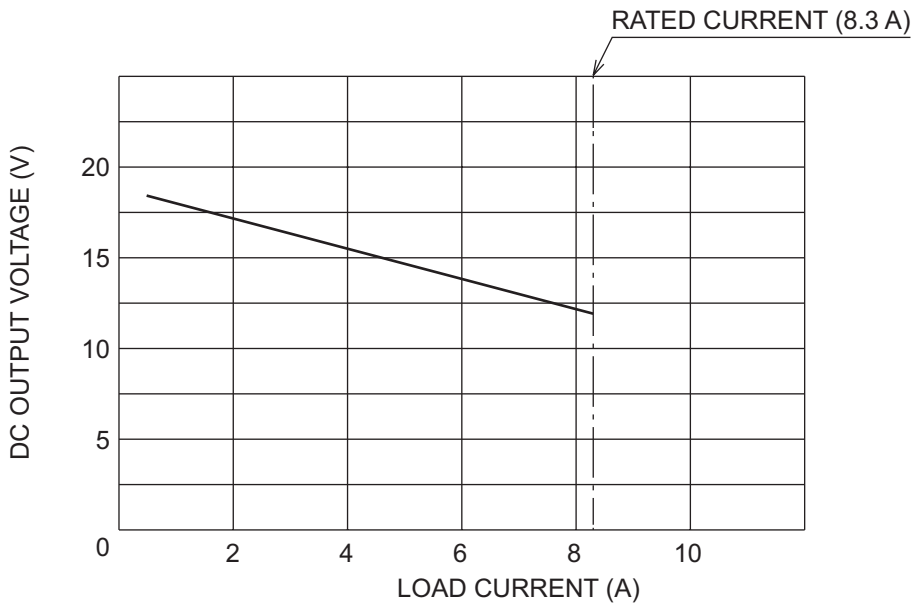
*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

EG5000CX SH/SKH type

AC EXTERNAL CHARACTERISTIC CURVES



DC EXTERNAL CHARACTERISTIC CURVE

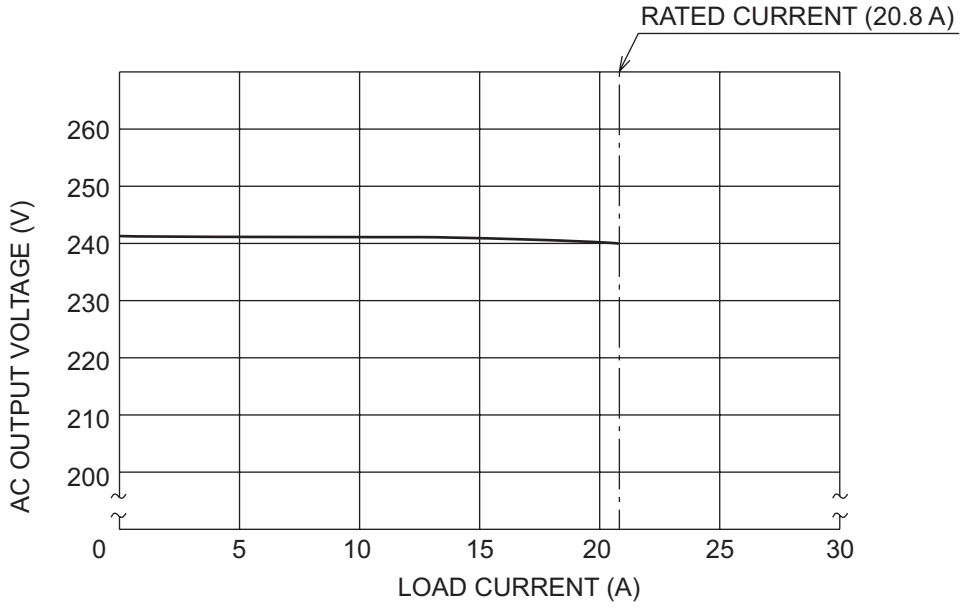


*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

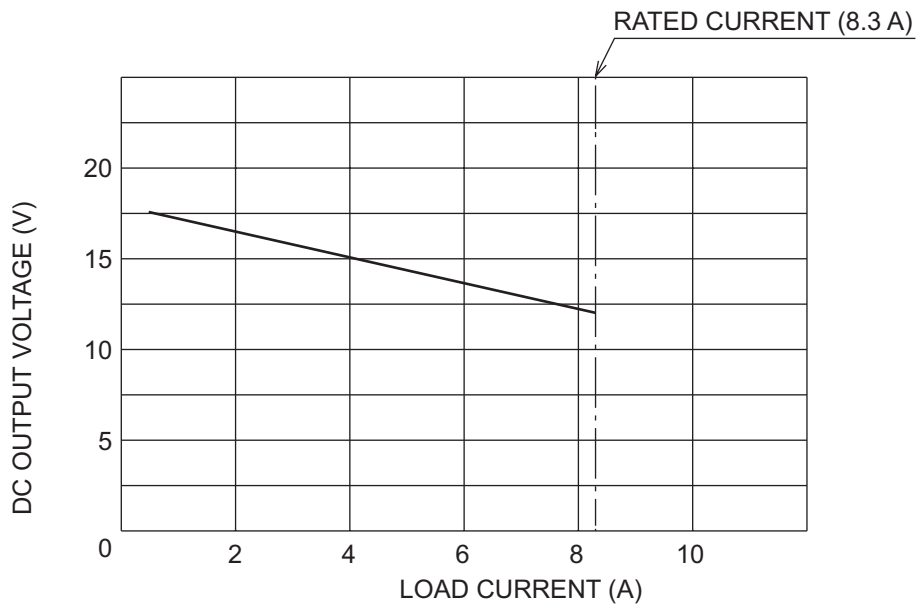
SPECIFICATIONS

EG5500CX UH type/EG5500CXS UH type

AC EXTERNAL CHARACTERISTIC CURVES



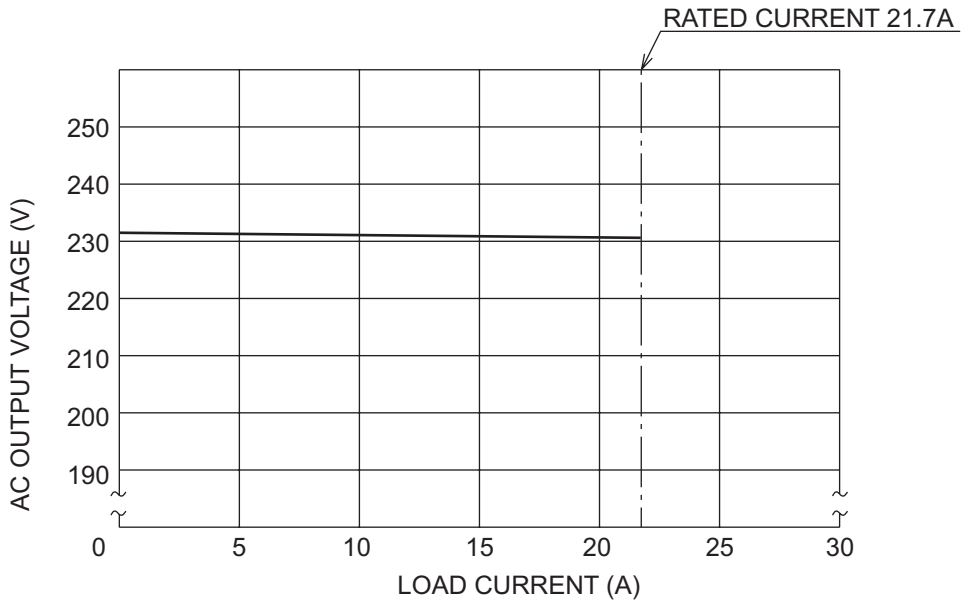
DC EXTERNAL CHARACTERISTIC CURVE



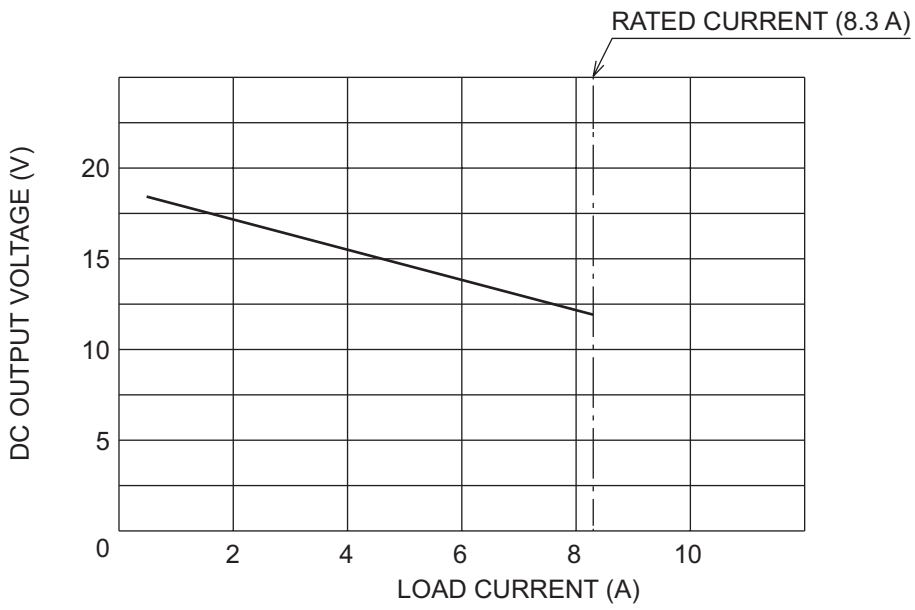
*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

EG6500CX RHH type/EG5500CXS RGH type/EG6500CXS RHH type

AC EXTERNAL CHARACTERISTIC CURVES



DC EXTERNAL CHARACTERISTIC CURVE (EG5500CXS RGH type only)

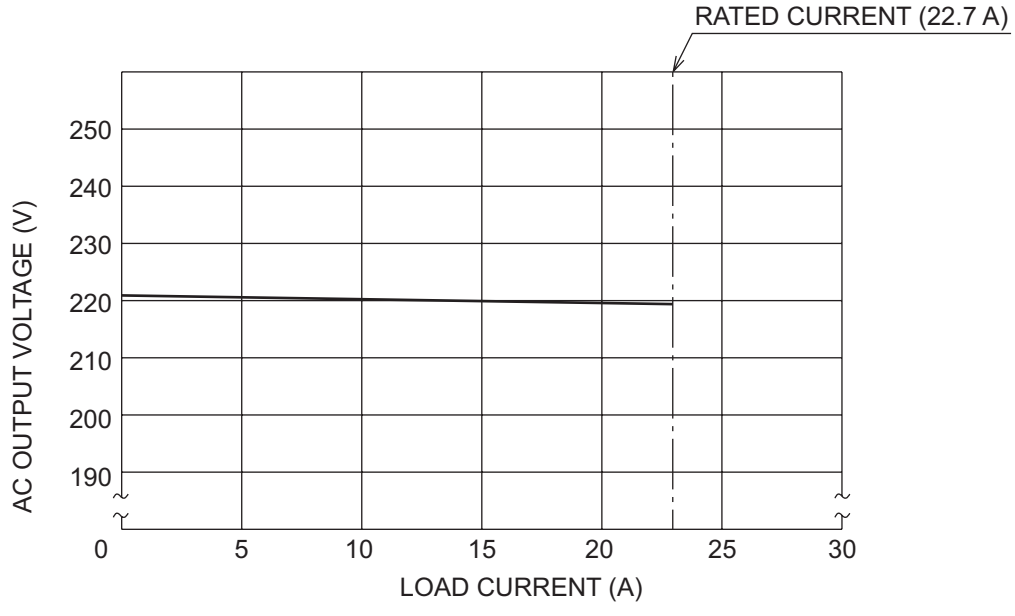


*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

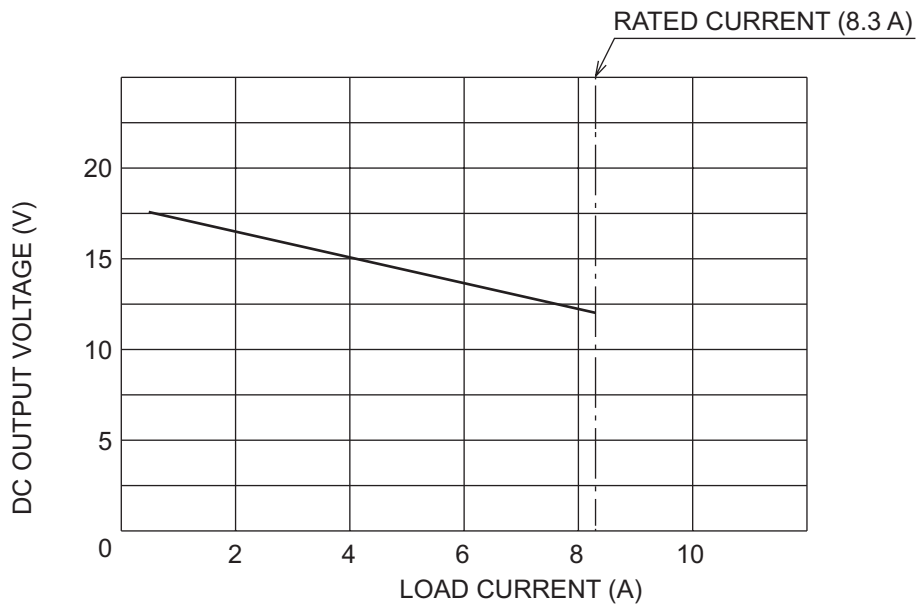
SPECIFICATIONS

EG6500CX KH/MH/RH type/EG6500CXS KH/MH/RH type

AC EXTERNAL CHARACTERISTIC CURVES



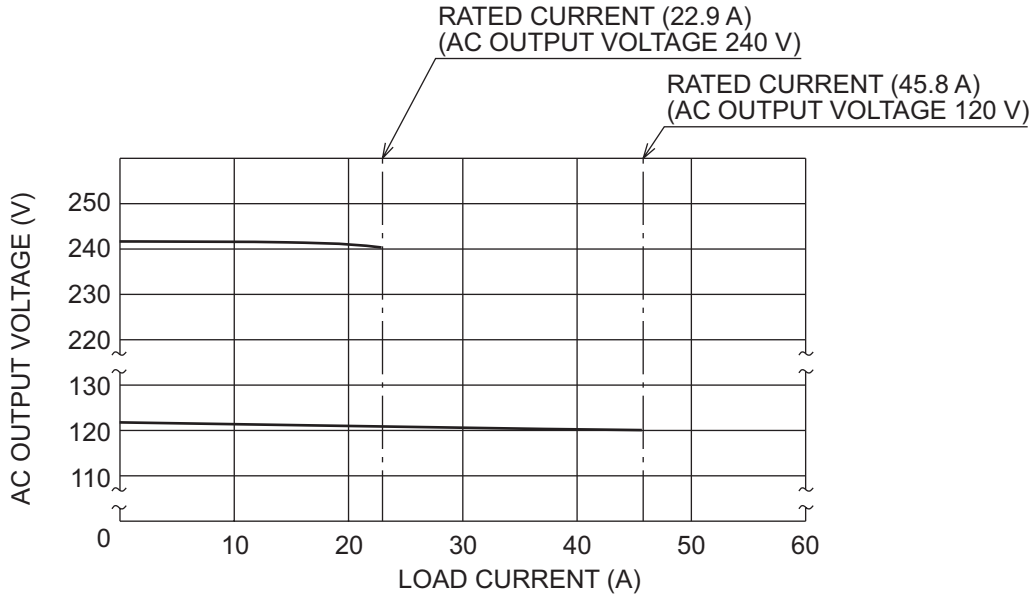
DC EXTERNAL CHARACTERISTIC CURVE



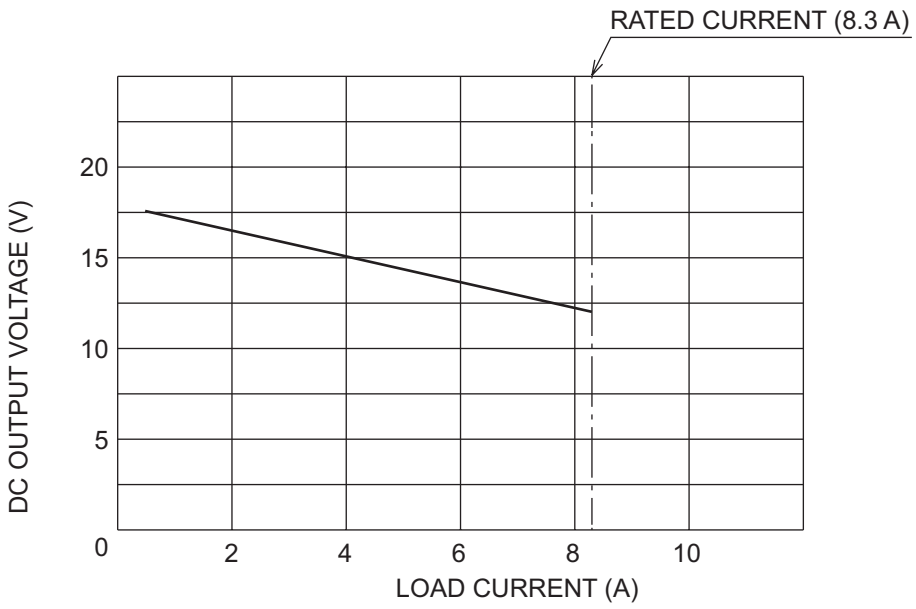
*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

EG6500CX LDH/LTH type/EG6500CXS LDH/LTH type

AC EXTERNAL CHARACTERISTIC CURVES



DC EXTERNAL CHARACTERISTIC CURVE

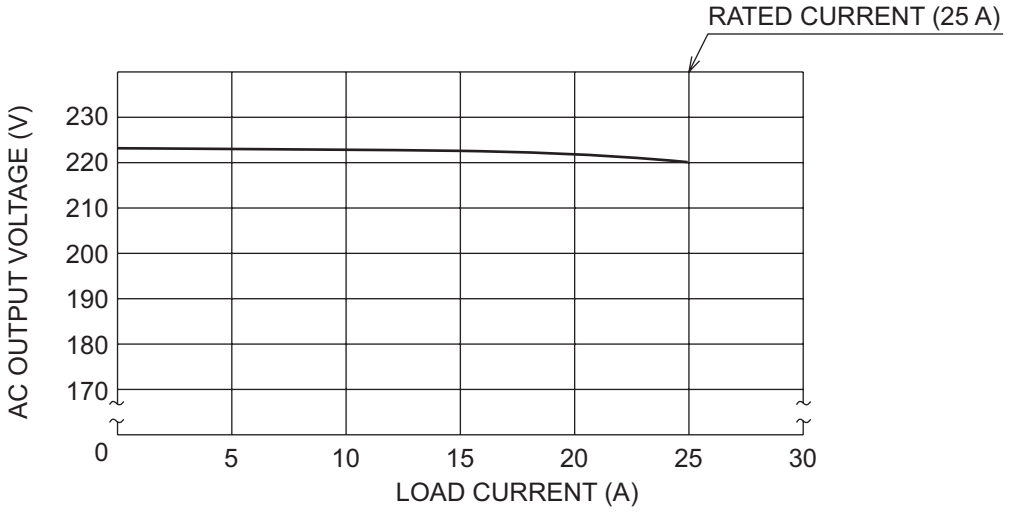


*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

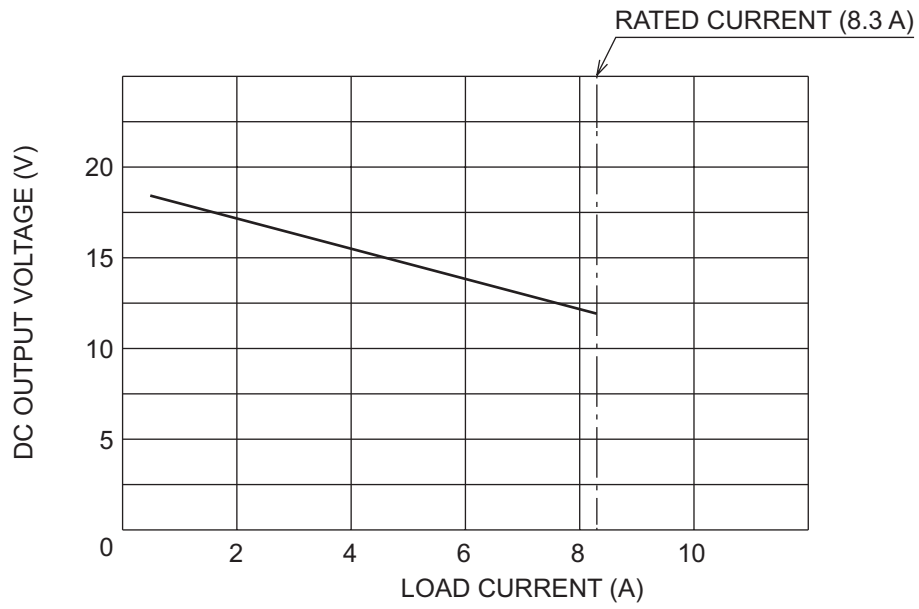
SPECIFICATIONS

EG6500CX SH/SKH type/EG6500CXS SH/SKH type

AC EXTERNAL CHARACTERISTIC CURVES



DC EXTERNAL CHARACTERISTIC CURVE

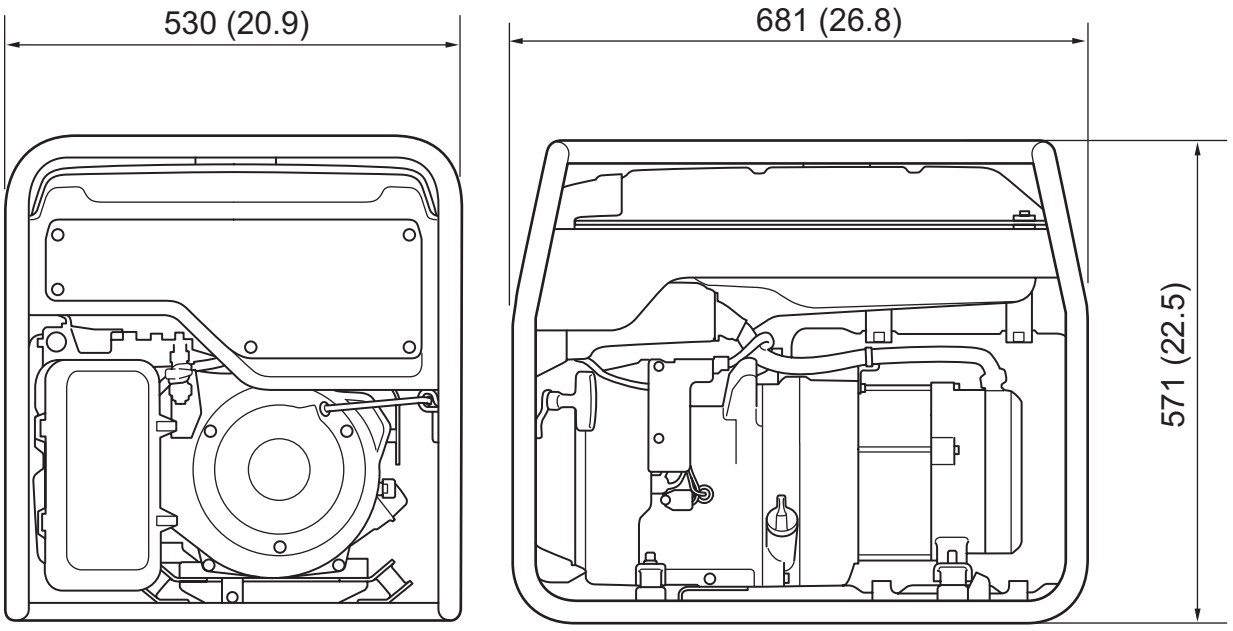


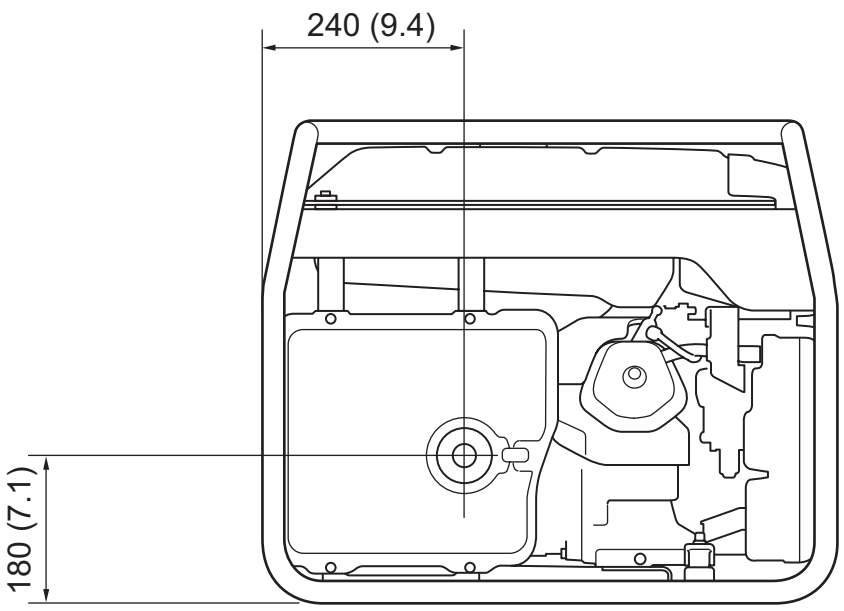
*This DC output characteristic was measured with the condition that condensers (200,000 μF) were parallel-connected.

DIMENSIONAL DRAWINGS

Except EG5500CXS/EG6500CXS

Unit: mm (in)

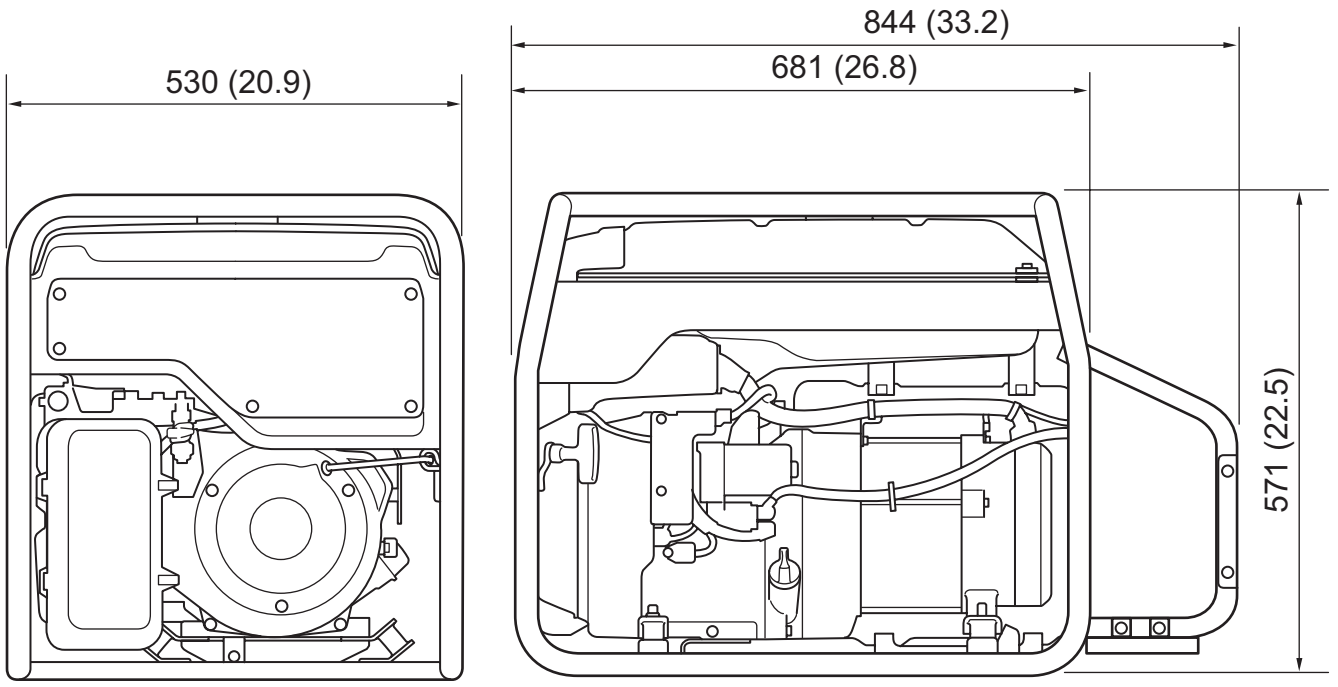


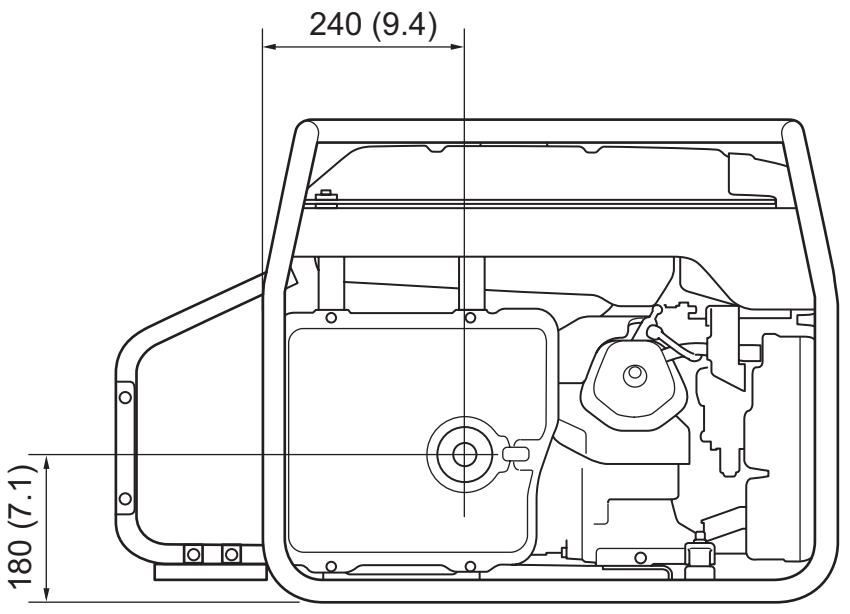


SPECIFICATIONS

EG5500CXS/EG6500CXS

Unit: mm (in)





2. SERVICE INFORMATION

MAINTENANCE STANDARDS

ENGINE

EG3600CX/EG4000CX

Unit: mm (in)

Part	Item		Standard	Service limit
Engine	Engine speed	Except EG4000CX LDH type	3,000 ± 100 min^{-1} (rpm)	–
		EG4000CX LDH type	3,600 ± 100 min^{-1} (rpm)	–
	Cylinder compression		1.37 MPa (14 kgf/cm^2, 199 psi) at 1,400 min^{-1} (rpm)	–
Cylinder	Sleeve I.D.		77.000 – 77.017 (3.0315 – 3.0322)	77.17 (3.038)
Cylinder head	Warpage		–	0.10 (0.004)
Piston	Skirt O.D.		76.965 – 76.985 (3.0301 – 3.0309)	76.85 (3.026)
	Piston-to-cylinder clearance		0.015 – 0.052 (0.0006 – 0.0020)	0.12 (0.005)
	Piston pin bore I.D.		18.002 – 18.008 (0.7087 – 0.7090)	18.042 (0.7103)
Piston pin	Pin O.D.		17.994 – 18.000 (0.7084 – 0.7087)	17.950 (0.7067)
	Piston pin-to-piston pin bore clearance		0.002 – 0.014 (0.0001 – 0.0006)	0.08 (0.003)
Piston rings	Ring side clearance	Top	0.030 – 0.060 (0.0012 – 0.0024)	0.15 (0.006)
		Second	0.030 – 0.060 (0.0012 – 0.0024)	0.15 (0.006)
	Ring end gap	Top	0.200 – 0.350 (0.0079 – 0.0138)	1.0 (0.04)
		Second	0.350 – 0.500 (0.0138 – 0.0197)	1.0 (0.04)
		Oil (side rail)	0.20 – 0.70 (0.008 – 0.028)	1.0 (0.04)
	Ring width	Top	1.160 – 1.175 (0.0457 – 0.0463)	1.150 (0.0453)
		Second	1.160 – 1.175 (0.0457 – 0.0463)	1.150 (0.0453)
Connecting rod	Small end I.D.		18.005 – 18.020 (0.7089 – 0.7094)	18.07 (0.711)
	Big end I.D.		33.025 – 33.039 (1.3002 – 1.3007)	33.07 (1.302)
	Big end oil clearance		0.040 – 0.064 (0.0016 – 0.0025)	0.12 (0.005)
	Big end side clearance		0.1 – 0.4 (0.004 – 0.016)	1.0 (0.04)
Crankshaft	Crank pin O.D.		32.975 – 32.985 (1.2982 – 1.2986)	32.92 (1.296)
	Runout		–	0.1 (0.004)
Valves	Valve clearance	IN	0.15 ± 0.02	–
		EX	0.20 ± 0.02	–
	Valve stem O.D.	IN	6.575 – 6.590 (0.2589 – 0.2594)	6.44 (0.254)
		EX	6.535 – 6.550 (0.2573 – 0.2579)	6.40 (0.252)
	Valve guide I.D.	IN/EX	6.600 – 6.612 (0.2598 – 0.2603)	6.66 (0.262)
	Guide-to-stem clearance	IN	0.010 – 0.037 (0.0004 – 0.0015)	0.11 (0.004)
		EX	0.050 – 0.077 (0.0020 – 0.0030)	0.13 (0.005)
	Valve seat width		1.0 – 1.2 (0.04 – 0.05)	2.1 (0.08)
	Valve spring free length		39.0 (1.54)	37.5 (1.48)
	Valve spring perpendicularity		–	1.5°
Camshaft	Camshaft O.D.		15.966 – 15.984 (0.6286 – 0.6293)	15.92 (0.627)
	Cam height	IN	31.524 – 31.924 (1.2411 – 1.2568)	31.22 (1.229)
		EX	31.564 – 31.964 (1.2427 – 1.2584)	31.26 (1.231)
Cylinder barrel	Camshaft holder I.D.		16.000 – 16.018 (0.6299 – 0.6306)	16.05 (0.632)
Crankcase cover	Camshaft holder I.D.		16.000 – 16.018 (0.6299 – 0.6306)	16.05 (0.632)
Spark plug	Gap		0.70 – 0.80 (0.028 – 0.031)	–
Ignition coil	Air gap		0.2 – 0.6 (0.01 – 0.02)	–
Carburetor	Main jet		# 90	–
	Float height		13.2 (0.52)	–
	Pilot screw opening		1 – 1/4 turns out	–

EG4500CX/EG5000CX

Unit: mm (in)

Part	Item		Standard	Service limit
Engine	Engine speed	Except EG5000CX SH/SKH/LDH type	3,000 ± 100 min^{-1} (rpm)	–
		EG5000CX SH/SKH/LDH type	3,600 ± 100 min^{-1} (rpm)	–
	Cylinder compression		1.37 MPa (14 kgf/cm^2, 199 psi) at 1,400 min^{-1} (rpm)	–
Cylinder	Sleeve I.D.		82.000 – 82.017 (3.2283 – 3.2290)	82.17 (3.235)
Cylinder head	Warpage		–	0.10 (0.004)
Piston	Skirt O.D.		81.965 – 81.985 (3.2270 – 3.2277)	81.85 (3.222)
	Piston-to-cylinder clearance		0.015 – 0.052 (0.0006 – 0.0020)	0.12 (0.005)
	Piston pin bore I.D.		20.002 – 20.008 (0.7875 – 0.7877)	20.042 (0.7891)
Piston pin	Pin O.D.		19.994 – 20.000 (0.7872– 0.7874)	19.950 (0.7854)
	Piston pin-to-piston pin bore clearance		0.002 – 0.014 (0.0001 – 0.0006)	0.08 (0.003)
Piston rings	Ring side clearance	Top	0.030 – 0.060 (0.0012 – 0.0024)	0.15 (0.006)
		Second	0.030 – 0.060 (0.0012 – 0.0024)	0.15 (0.006)
	Ring end gap	Top	0.200 – 0.350 (0.0079 – 0.0138)	1.0 (0.04)
		Second	0.350 – 0.500 (0.0138 – 0.0197)	1.0 (0.04)
		Oil (side rail)	0.20 – 0.70 (0.008 – 0.028)	1.0 (0.04)
	Ring width	Top	1.160 – 1.175 (0.0457 – 0.0463)	1.150 (0.0453)
		Second	1.160 – 1.175 (0.0457 – 0.0463)	1.150 (0.0453)
Connecting rod	Small end I.D.		20.005 – 20.020 (0.7876 – 0.7882)	20.07 (0.790)
	Big end I.D.		36.025 – 36.039 (1.4183 – 1.4189)	36.07 (1.420)
	Big end oil clearance		0.040 – 0.064 (0.0016 – 0.0025)	0.12 (0.005)
	Big end side clearance		0.1 – 0.4 (0.004 – 0.016)	1.0 (0.04)
Crankshaft	Crank pin O.D.		35.975 – 35.985 (1.4163 – 1.4167)	35.93 (1.415)
	Runout		–	0.1 (0.004)
Valves	Valve clearance	IN	0.15 ± 0.02	–
		EX	0.20 ± 0.02	–
	Valve stem O.D.	IN	6.575 – 6.590 (0.2589 – 0.2594)	6.44 (0.254)
		EX	6.535 – 6.550 (0.2573 – 0.2579)	6.40 (0.252)
	Valve guide I.D.	IN/EX	6.600 – 6.612 (0.2598 – 0.2603)	6.66 (0.262)
	Guide-to-stem clearance	IN	0.010 – 0.037 (0.0004 – 0.0015)	0.11 (0.004)
		EX	0.050 – 0.077 (0.0020 – 0.0030)	0.13 (0.005)
	Valve seat width		1.0 – 1.2 (0.04 – 0.05)	2.1 (0.08)
	Valve spring free length		39.0 (1.54)	37.5 (1.48)
	Valve spring perpendicularity		–	1.5°
Camshaft	Camshaft O.D.		15.966 – 15.984 (0.6286 – 0.6293)	15.92 (0.627)
	Cam height	IN	31.846 – 32.246 (1.2538 – 1.2695)	31.55 (1.242)
		EX	31.567 – 31.967 (1.2428 – 1.2585)	31.27 (1.231)
Cylinder barrel	Camshaft holder I.D.		16.000 – 16.018 (0.6299 – 0.6306)	16.05 (0.632)
Crankcase cover	Camshaft holder I.D.		16.000 – 16.018 (0.6299 – 0.6306)	16.05 (0.632)
Spark plug	Gap		0.70 – 0.80 (0.028 – 0.031)	–
Ignition coil	Air gap		0.2 – 0.6 (0.01 – 0.02)	–
Carburetor	Main jet		# 100	–
	Float height		13.2 (0.52)	–
	Pilot screw opening		1 – 3/4 turns out	–

EG5500CX/EG6500CX/EG5500CXS/EG6500CXS

Unit: mm (in)

Part	Item		Standard	Service limit
Engine	Engine speed	Except EG6500CX SH/SKH/LDH/LTH type /EG6500CXS SH/SKH/LDH/LTH type	3,000 ± 100 min^{-1} (rpm)	–
		EG6500CX SH/SKH/LDH/LTH type /EG6500CXS SH/SKH/LDH/LTH type	3,600 ± 100 min^{-1} (rpm)	
	Cylinder compression		1.37 MPa (14 kgf/cm^2, 199 psi) at 1,400 min^{-1} (rpm)	–
Cylinder	Sleeve I.D.		88.000 – 88.017 (3.4646 – 3.4652)	88.17 (3.471)
Cylinder head	Warpage		–	0.10 (0.004)
Piston	Skirt O.D.		87.965 – 87.985 (3.4632 – 3.4640)	87.85 (3.459)
	Piston-to-cylinder clearance		0.015 – 0.052 (0.0006 – 0.0020)	0.12 (0.005)
	Piston pin bore I.D.		20.002 – 20.008 (0.7875 – 0.7877)	20.042 (0.7891)
Piston pin	Pin O.D.		19.994 – 20.000 (0.7872– 0.7874)	19.950 (0.7854)
	Piston pin-to-piston pin bore clearance		0.002 – 0.014 (0.0001 – 0.0006)	0.08 (0.003)
Piston rings	Ring side clearance	Top	0.030 – 0.060 (0.0012 – 0.0024)	0.15 (0.006)
		Second	0.030 – 0.060 (0.0012 – 0.0024)	0.15 (0.006)
	Ring end gap	Top	0.200 – 0.350 (0.0079 – 0.0138)	1.0 (0.04)
		Second	0.350 – 0.500 (0.0138 – 0.0197)	1.0 (0.04)
		Oil (side rail)	0.20 – 0.70 (0.008 – 0.028)	1.0 (0.04)
	Ring width	Top	1.160 – 1.175 (0.0457 – 0.0463)	1.150 (0.0453)
		Second	1.160 – 1.175 (0.0457 – 0.0463)	1.150 (0.0453)
Connecting rod	Small end I.D.		20.005 – 20.020 (0.7876 – 0.7882)	20.07 (0.790)
	Big end I.D.		36.025 – 36.039 (1.4183 – 1.4189)	36.07 (1.420)
	Big end oil clearance		0.040 – 0.064 (0.0016 – 0.0025)	0.12 (0.005)
	Big end side clearance		0.1 – 0.4 (0.004 – 0.016)	1.0 (0.04)
Crankshaft	Crank pin O.D.		35.975 – 35.985 (1.4163 – 1.4167)	35.93 (1.415)
	Runout		–	0.1 (0.004)
Valves	Valve clearance	IN	0.15 ± 0.02	–
		EX	0.20 ± 0.02	–
	Valve stem O.D.	IN	6.575 – 6.590 (0.2589 – 0.2594)	6.44 (0.254)
		EX	6.535 – 6.550 (0.2573 – 0.2579)	6.40 (0.252)
	Valve guide I.D.	IN/EX	6.600 – 6.612 (0.2598 – 0.2603)	6.66 (0.262)
	Guide-to-stem clearance	IN	0.010 – 0.037 (0.0004 – 0.0015)	0.11 (0.004)
		EX	0.050 – 0.077 (0.0020 – 0.0030)	0.13 (0.005)
	Valve seat width		1.0 – 1.2 (0.04 – 0.05)	2.1 (0.08)
	Valve spring free length		39.0 (1.54)	37.5 (1.48)
	Valve spring perpendicularity		–	1.5°
Camshaft	Camshaft O.D.		15.966 – 15.984 (0.6286 – 0.6293)	15.92 (0.627)
	Cam height	IN	32.398 – 32.798 (1.2755 – 1.2913)	32.10 (1.264)
		EX	31.886 – 32.286 (1.2554 – 1.2711)	31.59 (1.244)
Cylinder barrel	Camshaft holder I.D.		16.000 – 16.018 (0.6299 – 0.6306)	16.05 (0.632)
Crankcase cover	Camshaft holder I.D.		16.000 – 16.018 (0.6299 – 0.6306)	16.05 (0.632)
Spark plug	Gap		0.70 – 0.80 (0.028 – 0.031)	–
Ignition coil	Air gap		0.2 – 0.6 (0.01 – 0.02)	–
Carburetor	Main jet		# 102	–
	Float height		13.2 (0.52)	–
	Pilot screw opening		2 – 1/4 turns out	–
Starter motor (EG5500CXS/ EG6500CXS only)	Brush length		7.0 (0.28)	3.5 (0.14)
	Mica depth		1.0 (0.04)	0.2 (0.01)

TORQUE VALUES

ENGINE

Item	Thread Dia. and pitch (mm)	Torque values			Remarks
		N·m	kgf·m	lbf·ft	
Spark plug	M14 x 1.25	18	1.8	13	
Drain plug bolt	M12 x 1.5	22.5	2.3	17	
Recoil spring retainer center screw	M6 x 1.0	5.4	0.55	4.0	
Cylinder head bolt	M10 x 1.25	35	3.6	26	Apply engine oil to the threads and seating surface.
Rocker arm pivot adjusting nut	M6 x 0.5	10	1.0	7	
Rocker arm pivot special bolt	M8 x 1.25	24	2.4	18	Apply engine oil to the threads and seating surface.
Flywheel special nut	M16 x 1.5	113	11.5	83	Degrease the crankshaft and flywheel tapered surface. Apply engine oil to the threads and seating surface.
Crankcase cover bolt	M8 x 1.25	24	2.4	18	
Connecting rod special bolt	M8 x 1.25	14	1.4	10	Apply engine oil to the threads and seating surface.
Oil level switch joint nut	M10 x 1.25	10	1.0	7	

FRAME

Item	Thread Dia. and pitch (mm)	Torque values			Remarks
		N·m	kgf·m	lbf·ft	
Rubber mount nut	M8 x 1.25	24	2.4	18	
Engine mount nut	M10 x 1.25	34	3.5	25	
Fuel valve nut	M14 x 1.0	13.5	1.4	10	
Fuel meter screw	M5 x 0.8	4	0.41	3.0	
Air cleaner base nut	M6 x 1.0	8.5	0.87	6.3	
Air cleaner case bolt	M5 x 0.8	5.4	0.55	4.0	
Exhaust pipe nut	M8 x 1.25	24	2.4	18	
Rear housing cover bolt	M6 x 1.0	9.8	1.00	7.2	
Rotor bolt	M10 x 1.25	44	4.5	32	Degrease the rotor and crankshaft tapered surface.
Front housing bolt	M8 x 1.25	24	2.4	18	
Generator cooling fan screw	M5 x 0.8	5	0.51	3.7	
Control panel screw	M6 x 1.0	4.4	0.45	3.2	
Control panel tapping screw	M5	3.4	0.35	2.5	

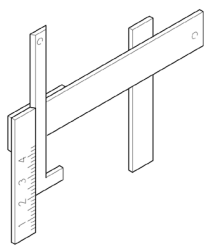
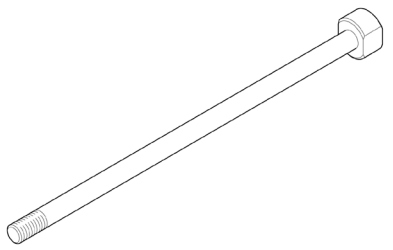
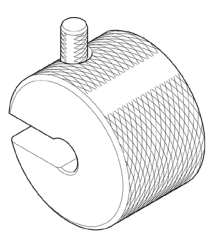
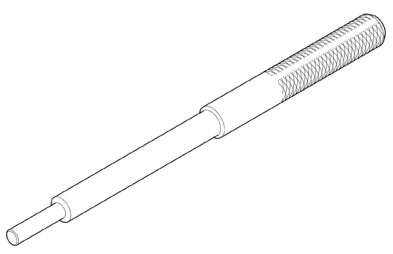
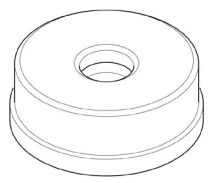
STANDARD TORQUE VALUES

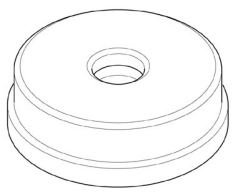
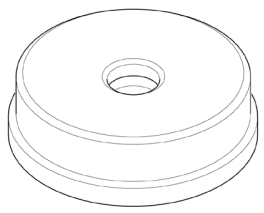
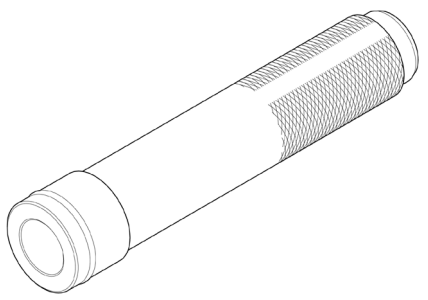
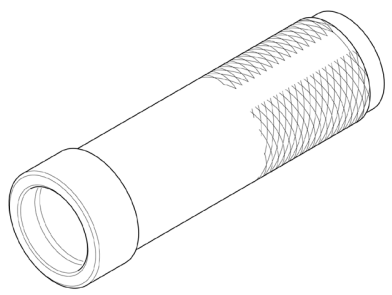
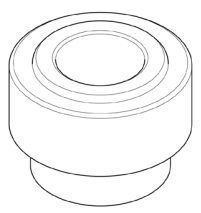
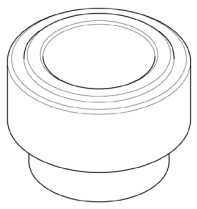
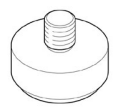
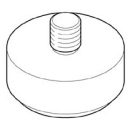
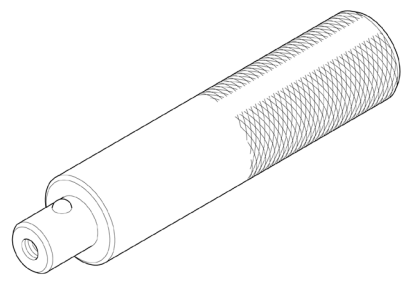
Item	Thread dia. (mm)	Torque values		
		N·m	kgf·m	lbf·ft
Screw	4 mm	2.0	0.20	1.5
	5 mm	4.3	0.44	3.2
	6 mm	9	0.92	6.6
Bolt and nut	5 mm	5.3	0.54	3.9
	6 mm	10	1.0	7
	8 mm	22	2.2	16
	10 mm	34	3.5	25
	12 mm	54	5.5	40
Flange bolt and nut	5 mm	5.3	0.54	3.9
	6 mm	12	1.2	9
	8 mm	23	2.3	17
	10 mm	39	4.0	29
SH (Small head) flange bolt	6 mm	9	0.92	6.6
CT (Cutting threads) flange bolt (Retightening)	5 mm	5.4	0.55	4.0
	6 mm	12	1.2	9

LUBRICATION & SEAL POINT

Location	Material	Remarks
Camshaft cam profile and journal	Engine oil	
Valve lifter stem, stem end and slipper		
Valve stem sliding surface and stem end		
Valve rocker arm tappet surface and pivot		
Cylinder barrel inner surface		
Piston outer surface		
Piston rings		
Piston pin outer surface		
Crank pin and gears		
Connecting rod big and small end		
Balancer shaft gear and journal		
Governor weight holder weight installation part and gear		
Governor shaft		
Governor arm shaft		
Oil seal lip	Multi-purpose grease	
O-ring		
Recoil starter case cutout		
Recoil starter ratchet		
Recoil starter spring retainer inside		

TOOLS

Float level gauge 07401-0010000	Sliding shaft 07736-0010101	Remover weight 07741-0010201
		
Valve guide driver, 6.45 mm 07742-0010200	Attachment, 32 × 35 mm 07746-0010100	Attachment, 52 × 55 mm 07746-0010400
		

Attachment, 62 × 68 mm 07746-0010500 	Attachment, 72 × 75 mm 07746-0010600 	Driver, 22 mm I.D. 07746-0020100 
Driver attachment, 20 mm I.D. 07746-0020400 	Driver, 40 mm I.D. 07746-0030100 	Driver attachment, 30 mm I.D. 07746-0030300 
Driver attachment, 35 mm I.D. 07746-0030400 	Pilot, 15 mm 07746-0040300 	Pilot, 30 mm 07746-0040700 
Pilot, 35 mm 07746-0040800 	Pilot, 14 mm 07746-0041200 	Driver 07749-0010000 

Seat cutter, 35 mm (45° EX)
07780-0010400

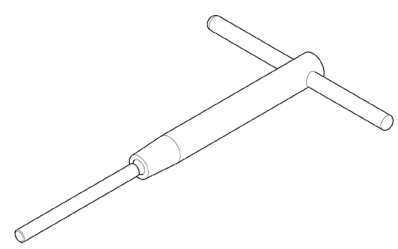
Seat cutter, 40 mm (45° IN)
07780-0010500

Flat cutter, 35 mm (32° EX)
07780-0012300

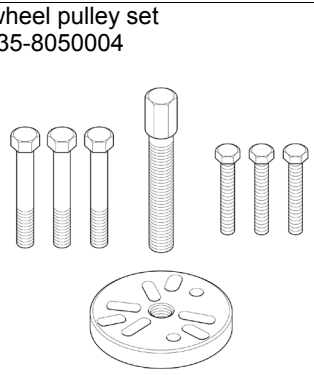
Flat cutter, 38.5 mm (32° IN)
07780-0012400

Interior cutter, 37.5 mm (60° IN/EX)
07780-0014100

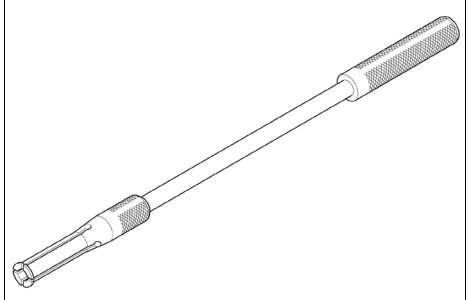
Cutter holder, 6.6 mm
07781-0010202



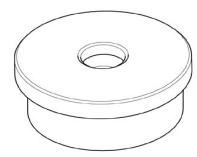
Flywheel pulley set
07935-8050004



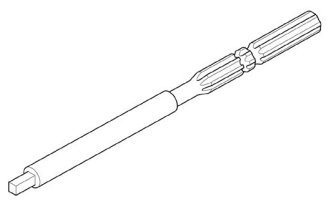
Bearing remover shaft, 15 mm
07936-KC10500



Attachment, 45 × 50 mm
07946-6920100



Valve guide reamer, 6.612 mm
07984-ZE20001



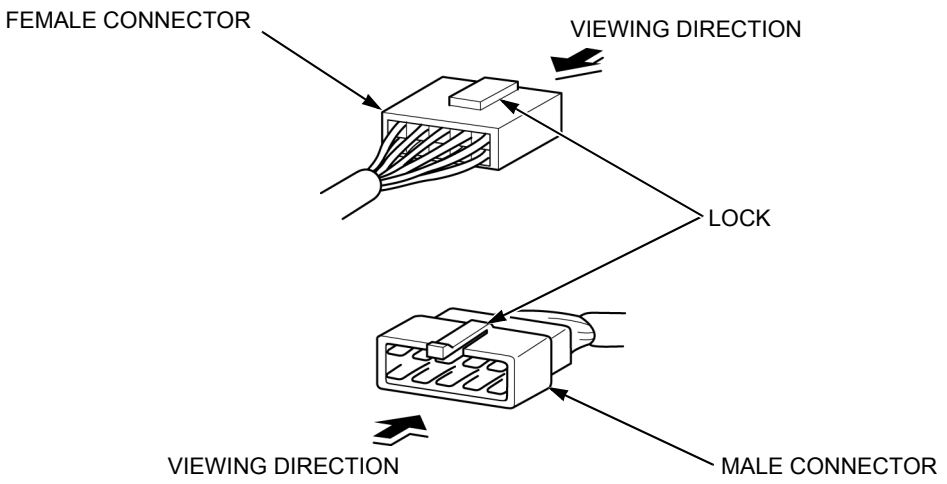
HOW TO READ CONNECTOR DRAWINGS

Connector drawings show the terminal arrangement, terminal No., number of pins and the shape of terminal (male or female).

Both the male and female connectors are shown for the common connectors, while only the main wire harness side connectors are shown for the dedicated connectors.

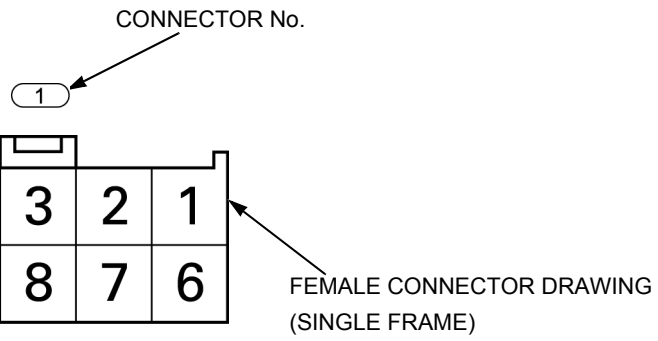
The double frame connectors represent the male connectors and the single frame connectors represent the female connectors.

Both the male and female connectors are shown by viewing them from the terminal side.



TERMINAL ARRANGEMENT

The connector drawing shows the terminal arrangement of the (1) connector with the lock of the connector toward up.

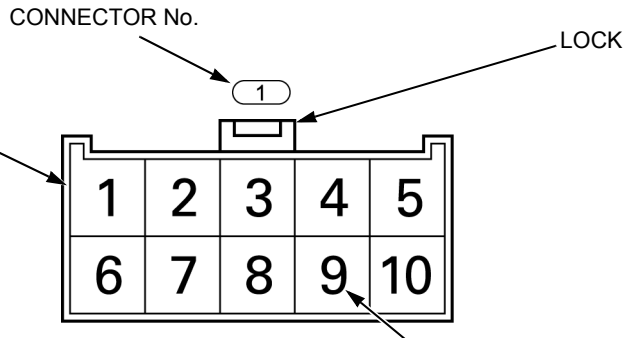


FEMALE CONNECTOR DRAWING (SINGLE FRAME)

Female connector viewed from the terminal side.

MALE CONNECTOR DRAWING (DOUBLE FRAME)

Male connector viewed from the terminal side.

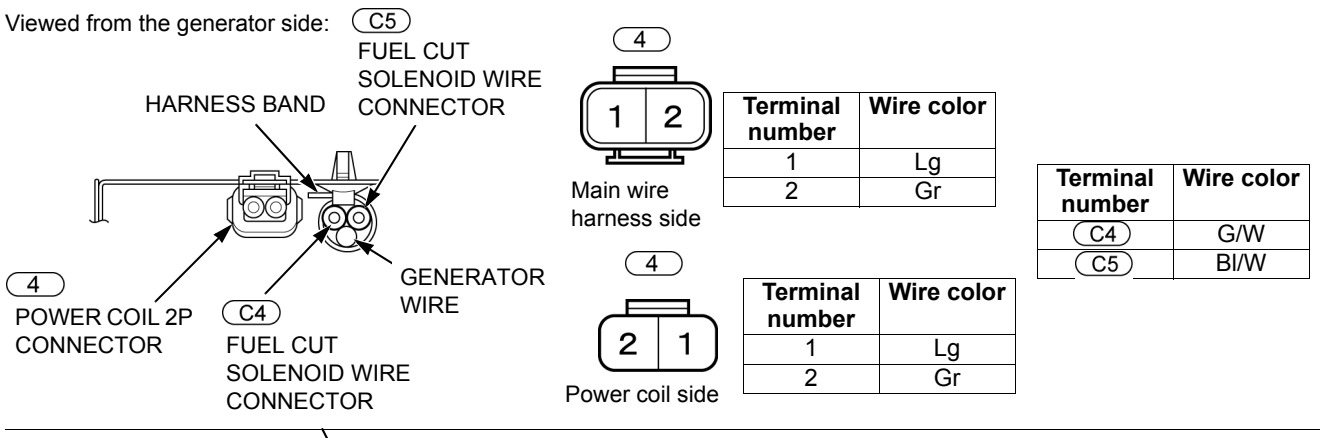


TERMINAL No.

The system drawing shows the No.9 terminal of the (1) connector.

FRAME/ENGINE CABLE/HARNESS ROUTING

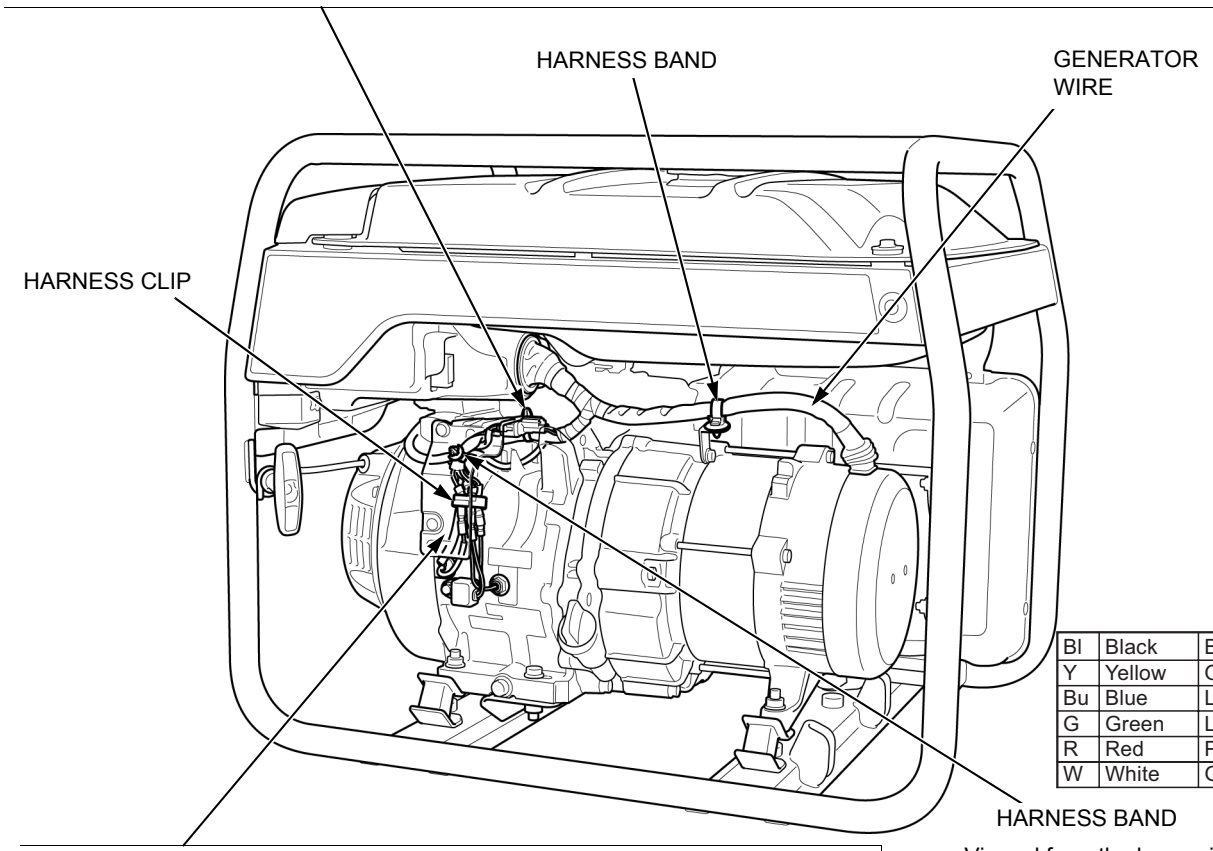
CX TYPE



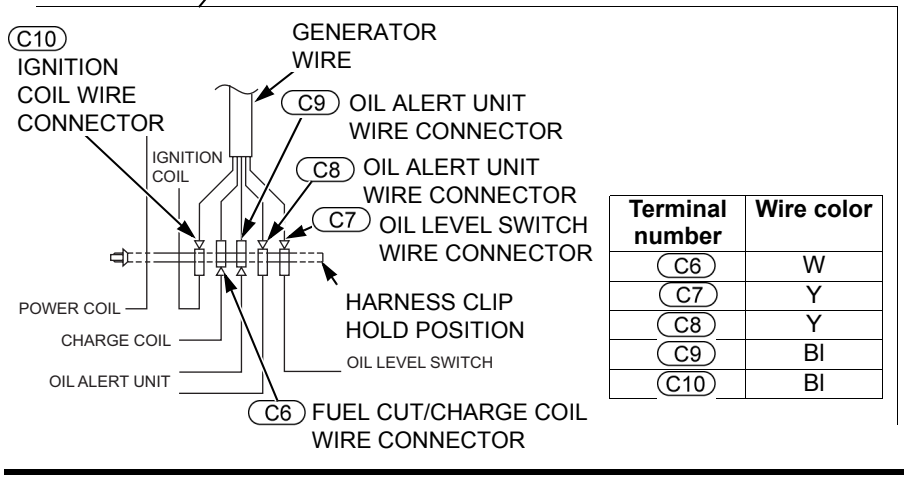
Terminal number	Wire color
1	Lg
2	Gr

Terminal number	Wire color
1	Lg
2	Gr

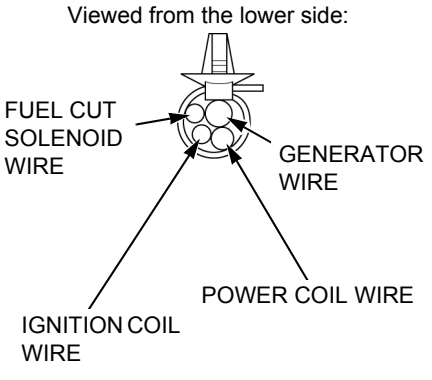
Terminal number	Wire color
C4	G/W
C5	Bl/W



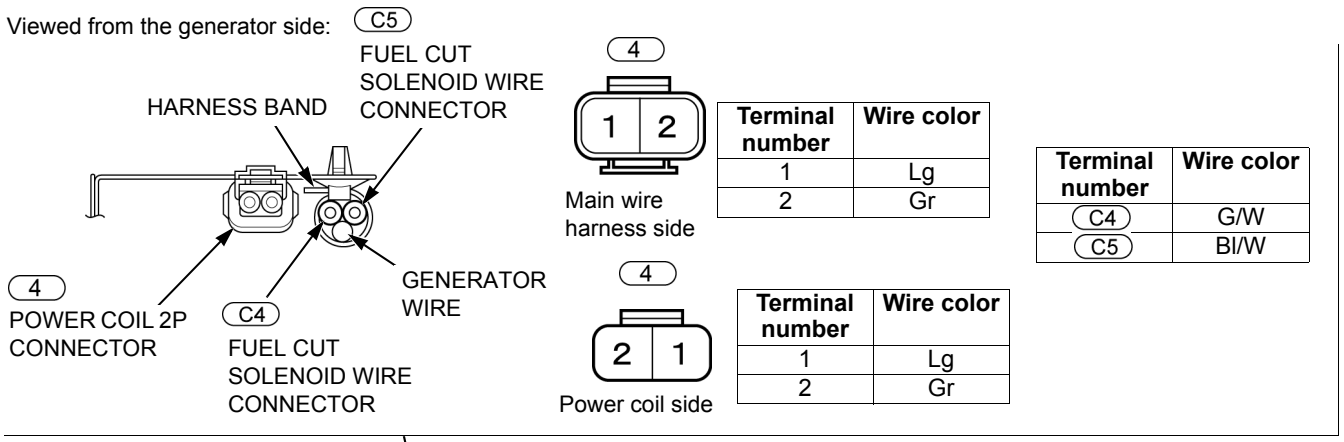
Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray



Terminal number	Wire color
C6	W
C7	Y
C8	Y
C9	Bl
C10	Bl



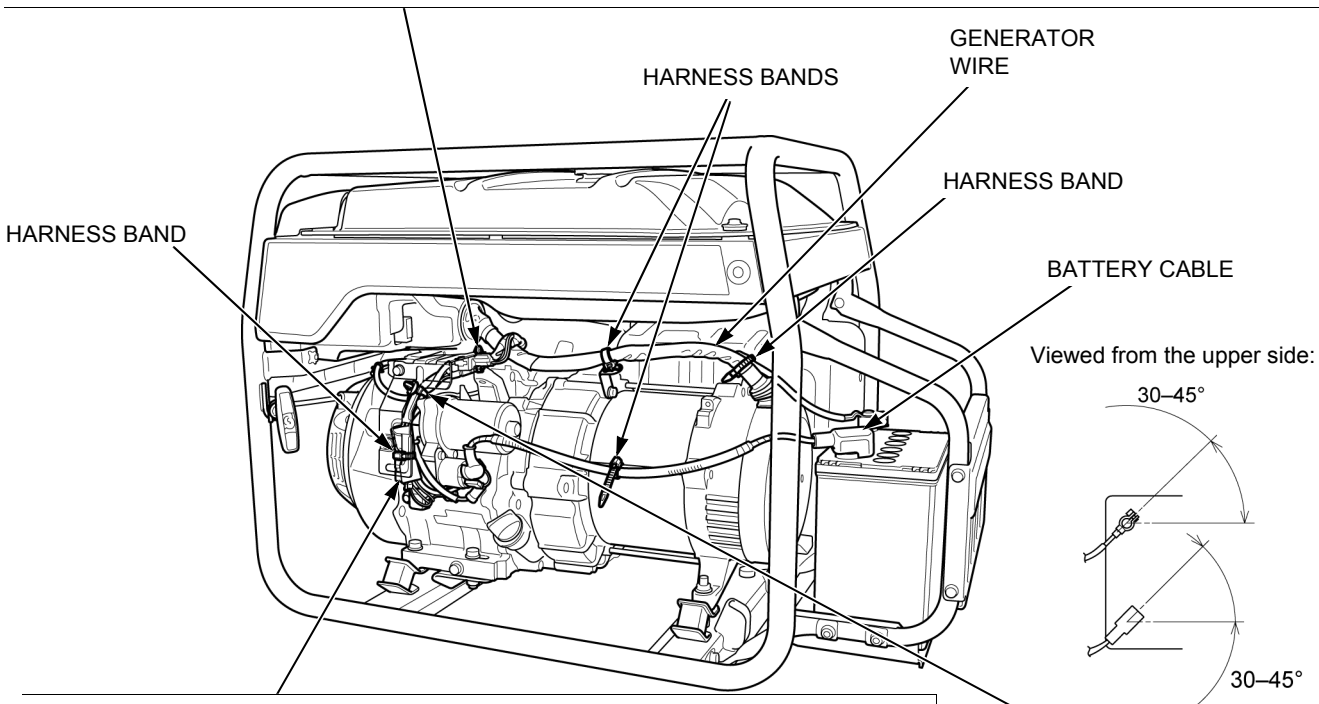
CXS TYPE



Terminal number	Wire color
1	Lg
2	Gr

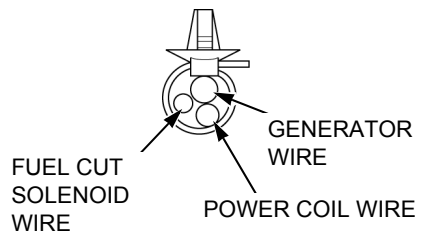
Terminal number	Wire color
1	Lg
2	Gr

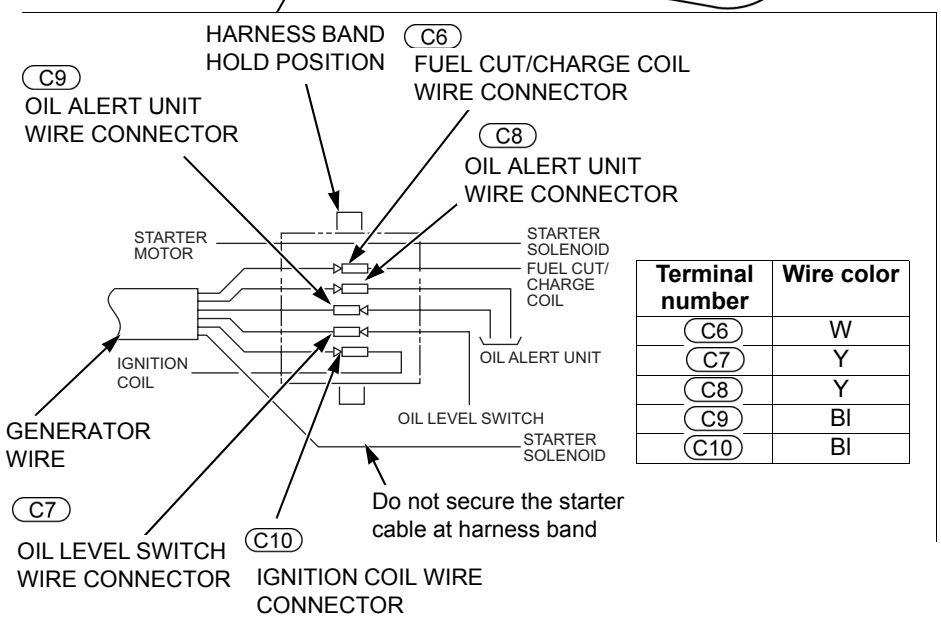
Terminal number	Wire color
C4	G/W
C5	Bl/W



Viewed from the upper side:

Viewed from the lower side:

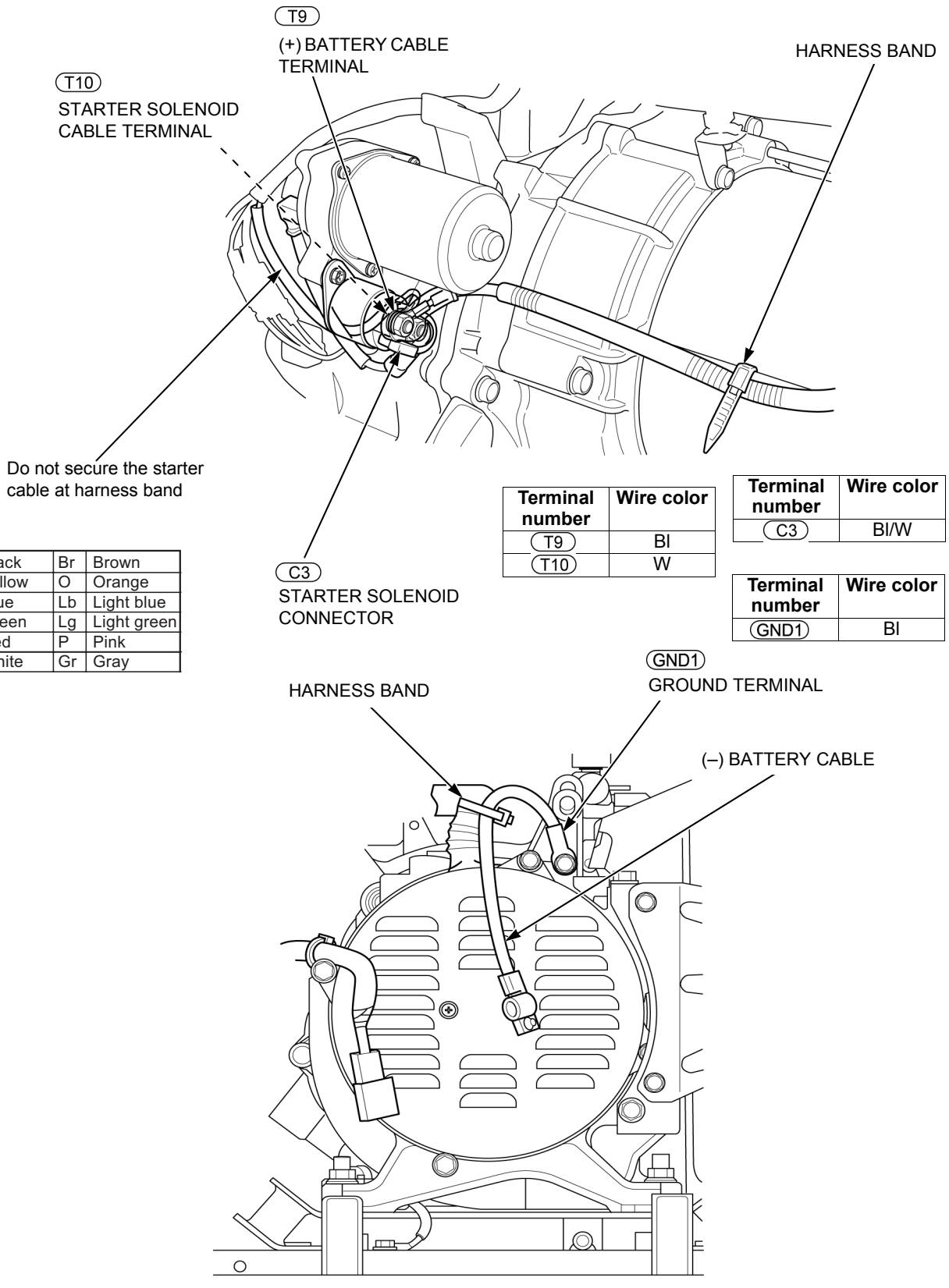




Terminal number	Wire color
C6	W
C7	Y
C8	Y
C9	Bl
C10	Bl

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

SERVICE INFORMATION



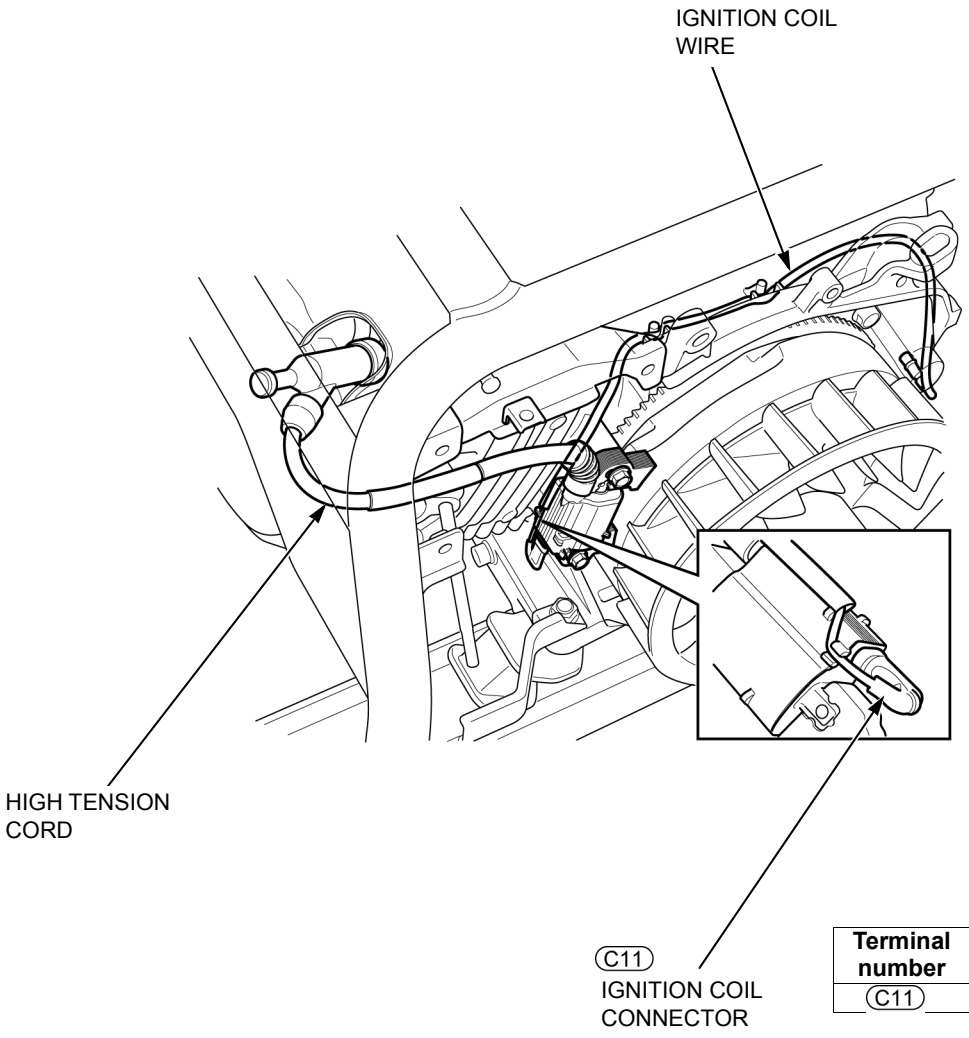
Terminal number	Wire color
T9	Bl
T10	W

Terminal number	Wire color
C3	Bl/W

Terminal number	Wire color
GND1	Bl

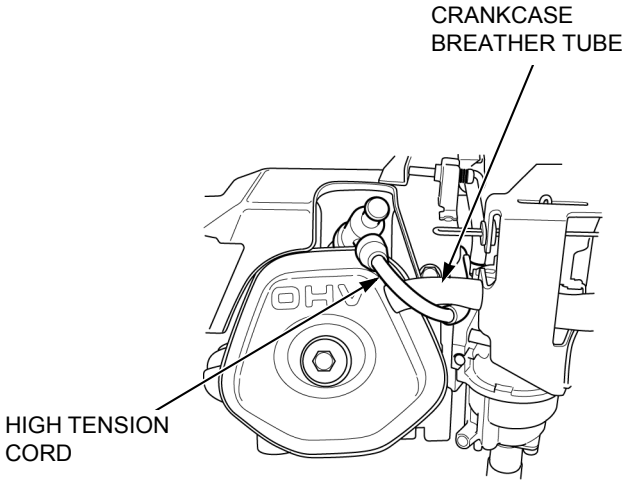
Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

IGNITION COIL SIDE:

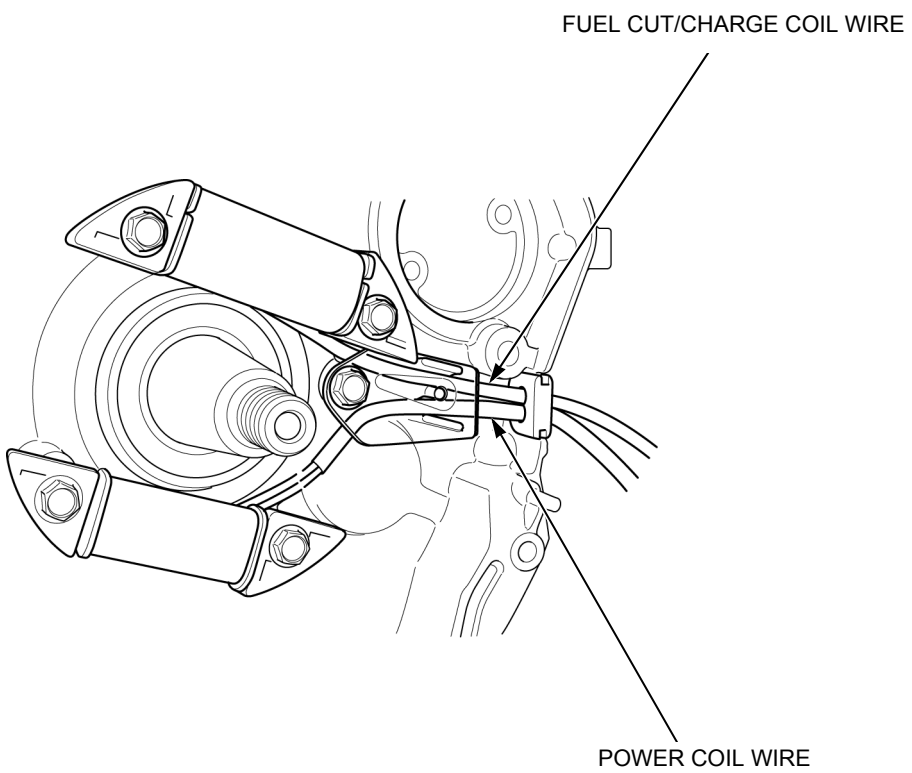


Terminal number	Wire color
C11	Bl

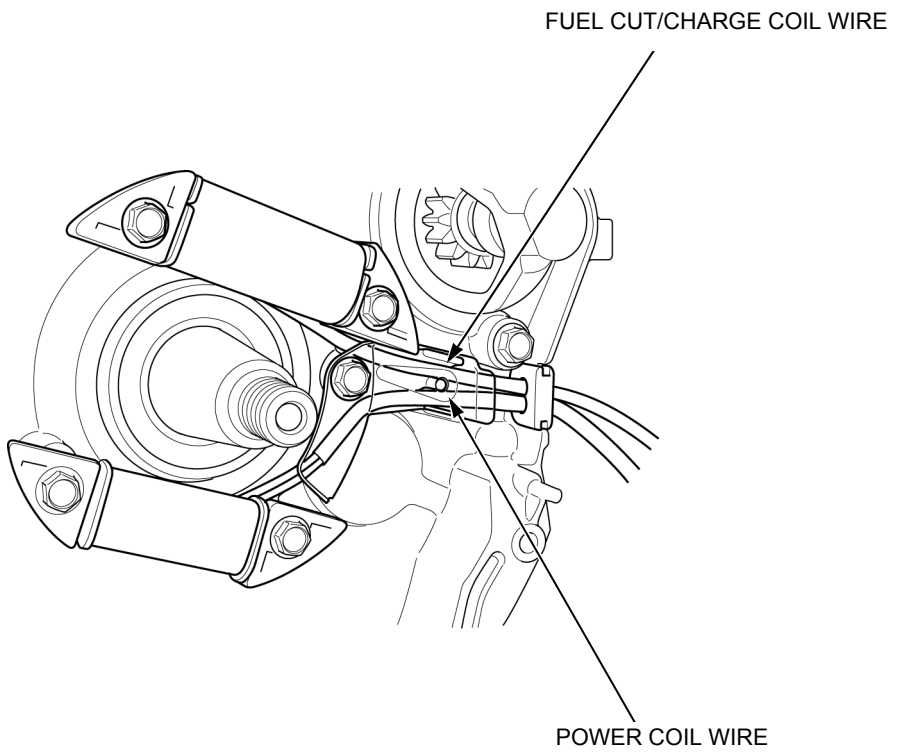
Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray



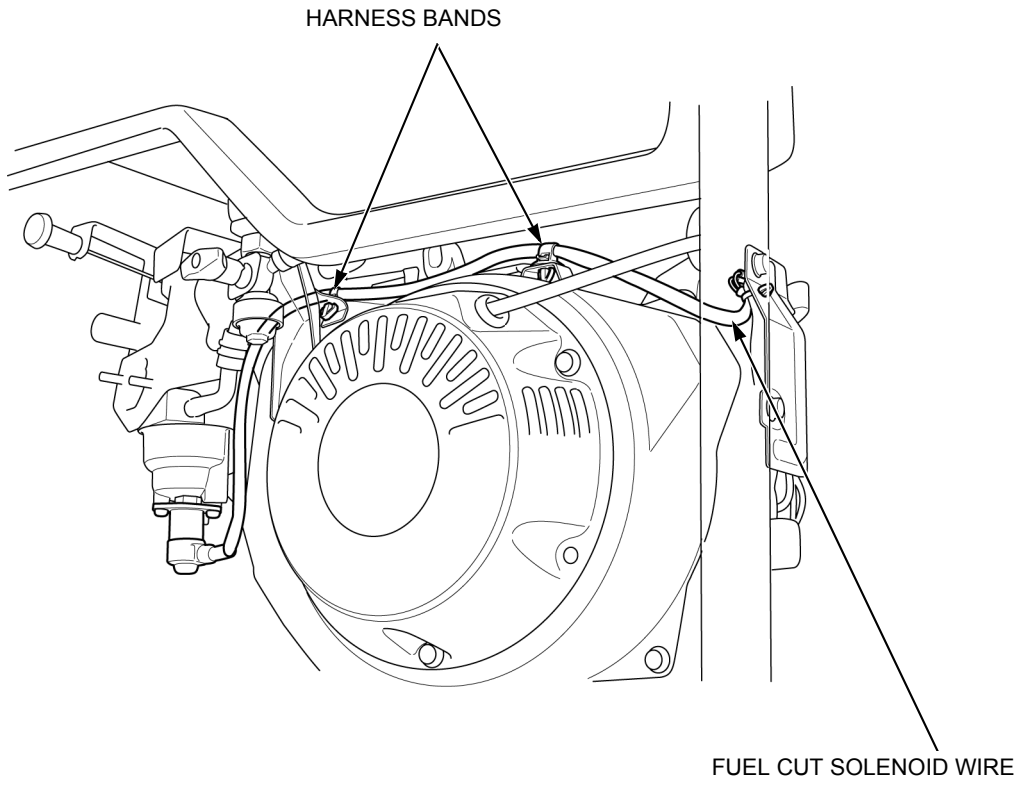
FUEL CUT/CHARGE COIL/POWER COIL SIDE (EG3600CX/EG4000CX)



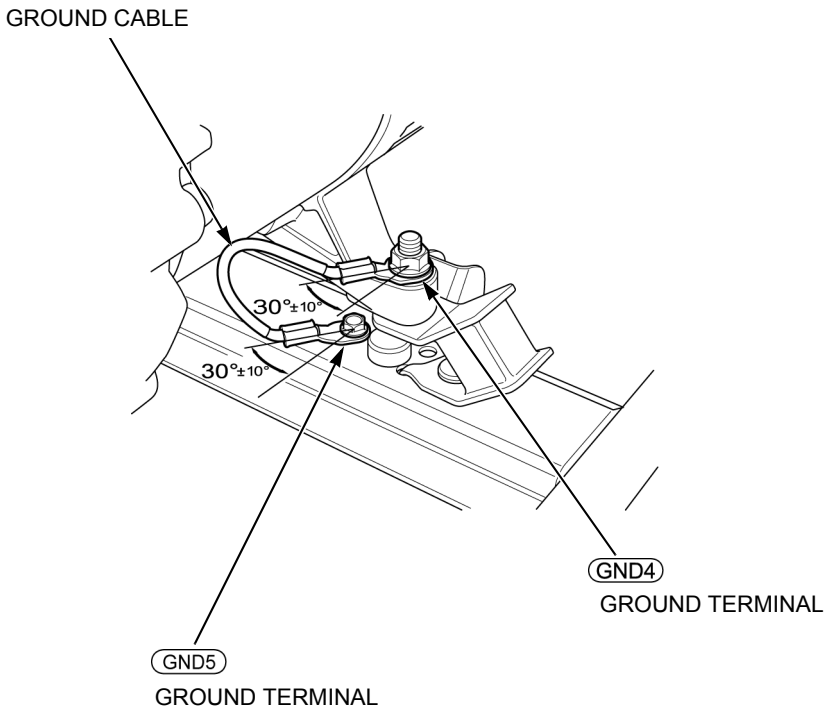
FUEL CUT/CHARGE COIL/POWER COIL SIDE (EXCEPT EG3600CX/EG4000CX)



FUEL CUT SOLENOID SIDE:



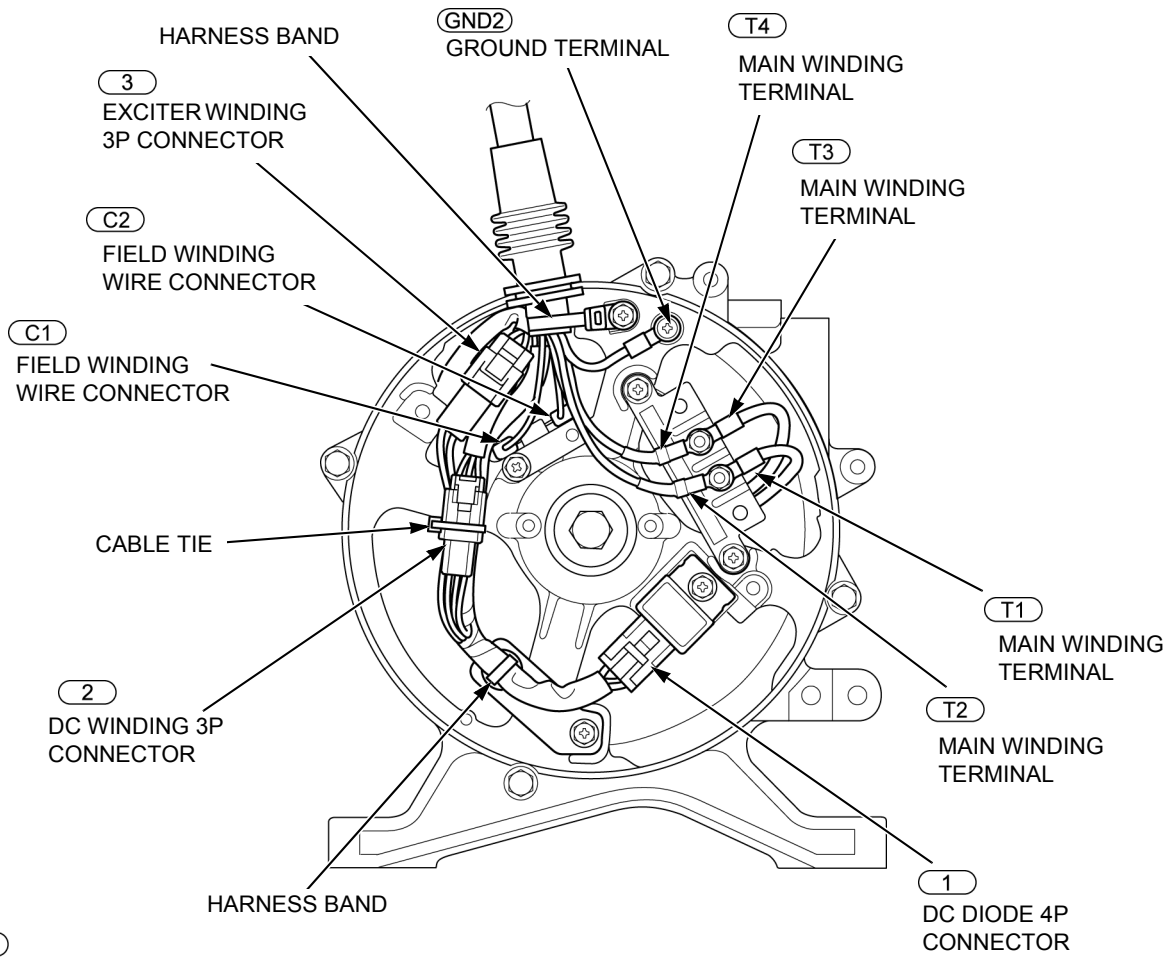
GROUND CABLE (UH TYPE ONLY):

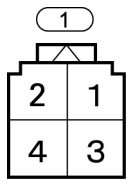


Terminal number	Wire color
GND4	G
GND5	G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

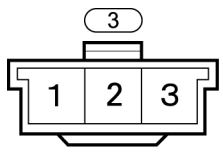
GENERATOR SIDE (MH, RH, KH, UH, SH, SKH, RGH TYPE):





MAIN WIRE HARNESS SIDE

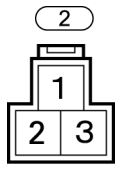
Terminal number	Wire color
1	Bl/R
2	–
3	Br
4	Br



MAIN WIRE HARNESS SIDE

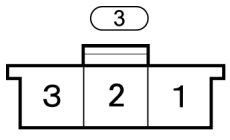
Terminal number	Wire color
1	Bu
2	–
3	Bu

Terminal number	Wire color
C1	R
C2	W



MAIN WIRE HARNESS SIDE

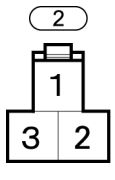
Terminal number	Wire color
1	W/R
2	Br
3	Br



EXCITER WINDING SIDE

Terminal number	Wire color
1	Bu
2	–
3	Bu

Terminal number	Wire color
T1	Br
T2	Br
T3	W
T4	W



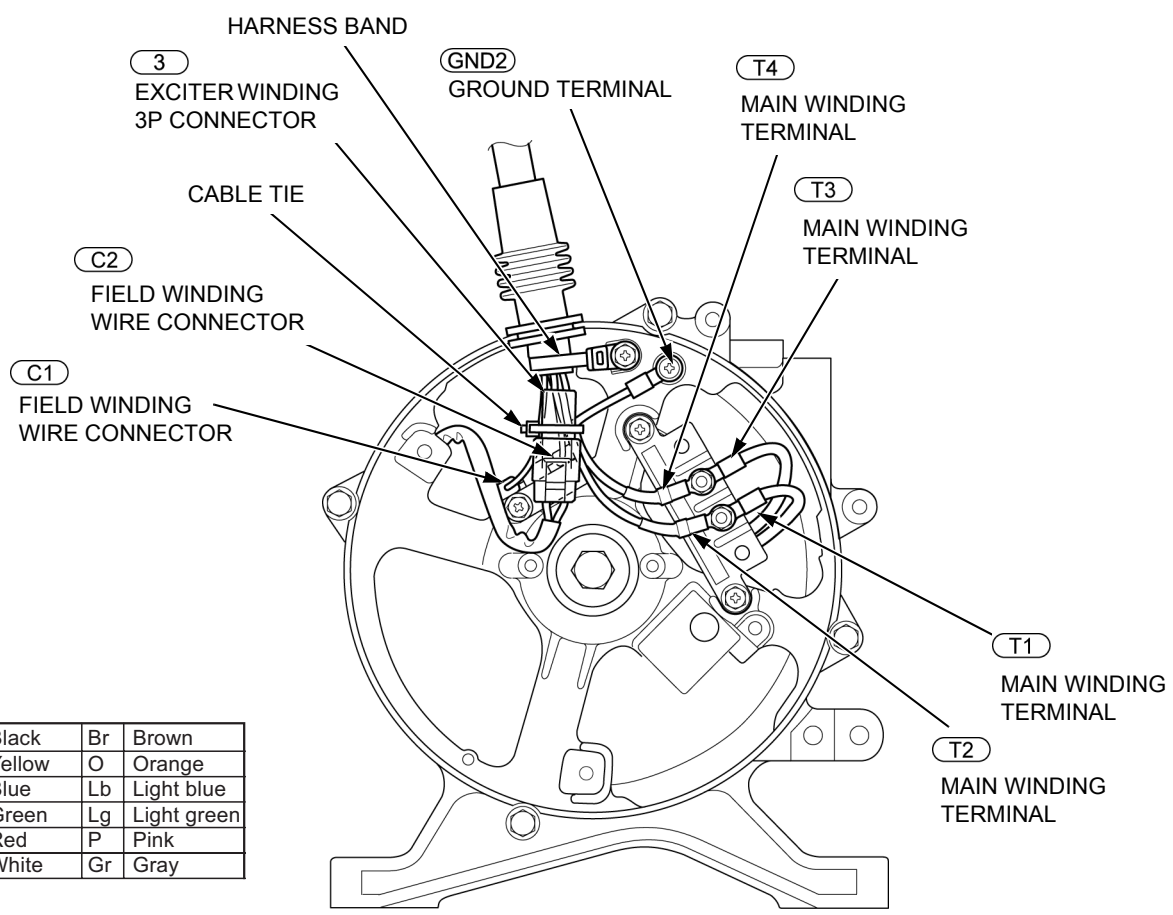
DC WINDING SIDE

Terminal number	Wire color
1	W/R
2	Br
3	Br

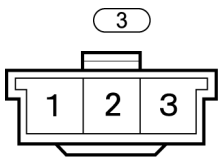
Terminal number	Wire color
GND2	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

GENERATOR SIDE (RHH TYPE):

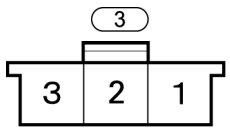


Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Bu
2	–
3	Bu



EXCITER
WINDING SIDE

Terminal number	Wire color
1	Bu
2	–
3	Bu

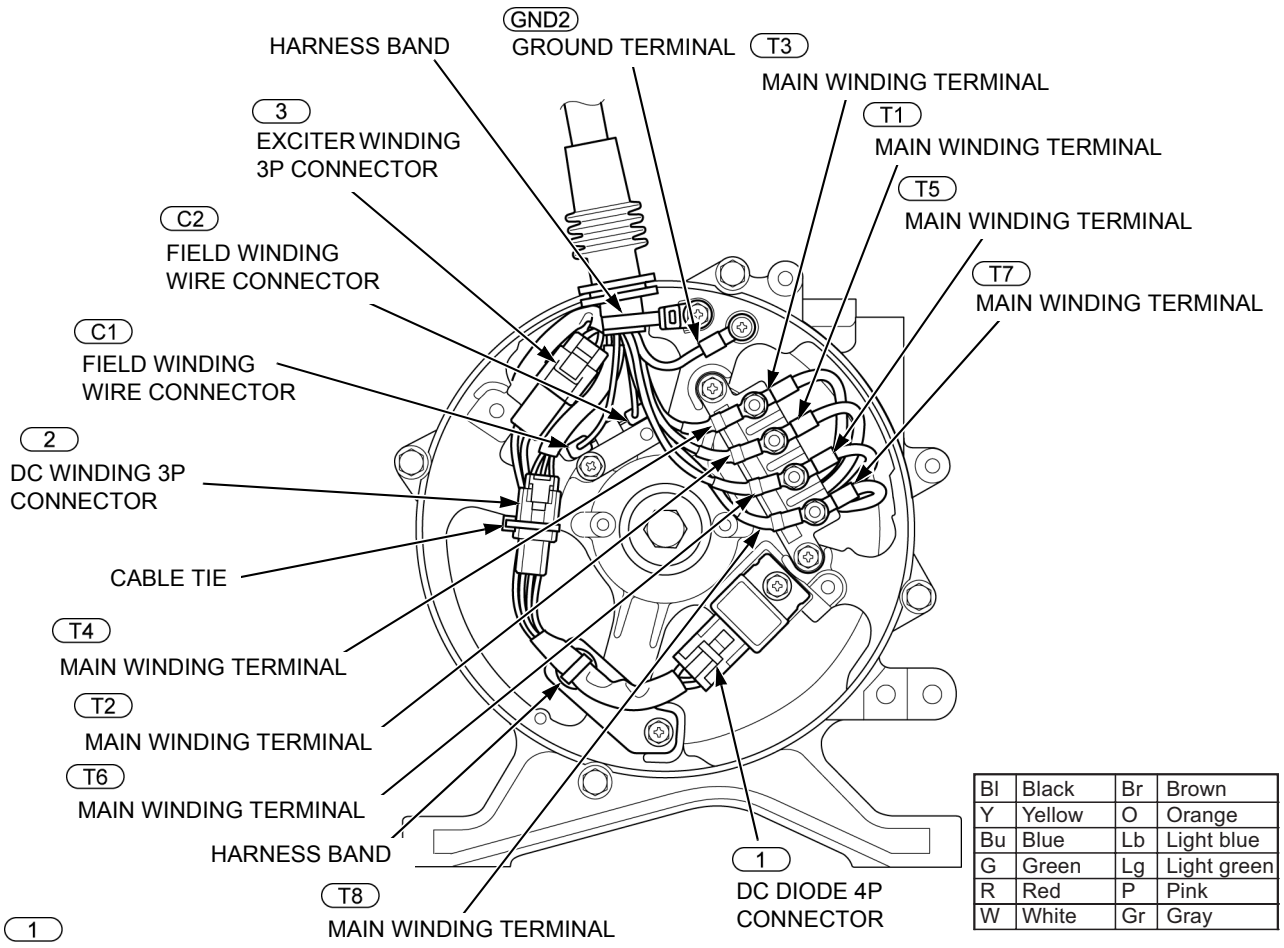
Terminal number	Wire color
C1	R
C2	W

Terminal number	Wire color
T1	Br
T2	Br
T3	W
T4	W

Terminal number	Wire color
GND2	Y/G

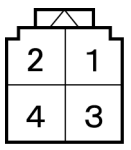
SERVICE INFORMATION

GENERATOR SIDE (LDH, LTH TYPE):



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

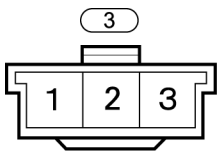
1



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/R
2	–
3	Br
4	Br

3

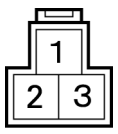


MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bu
2	–
3	Bu

Terminal number	Wire color
C1	R
C2	W

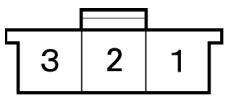
2



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	W/R
2	Br
3	Br

3

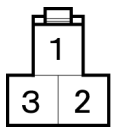


EXCITER WINDING SIDE

Terminal number	Wire color
1	Bu
2	–
3	Bu

Terminal number	Wire color
T1	R
T2	R
T3	W
T4	W
T5	Gr
T6	Gr
T7	Bu
T8	Bu

2



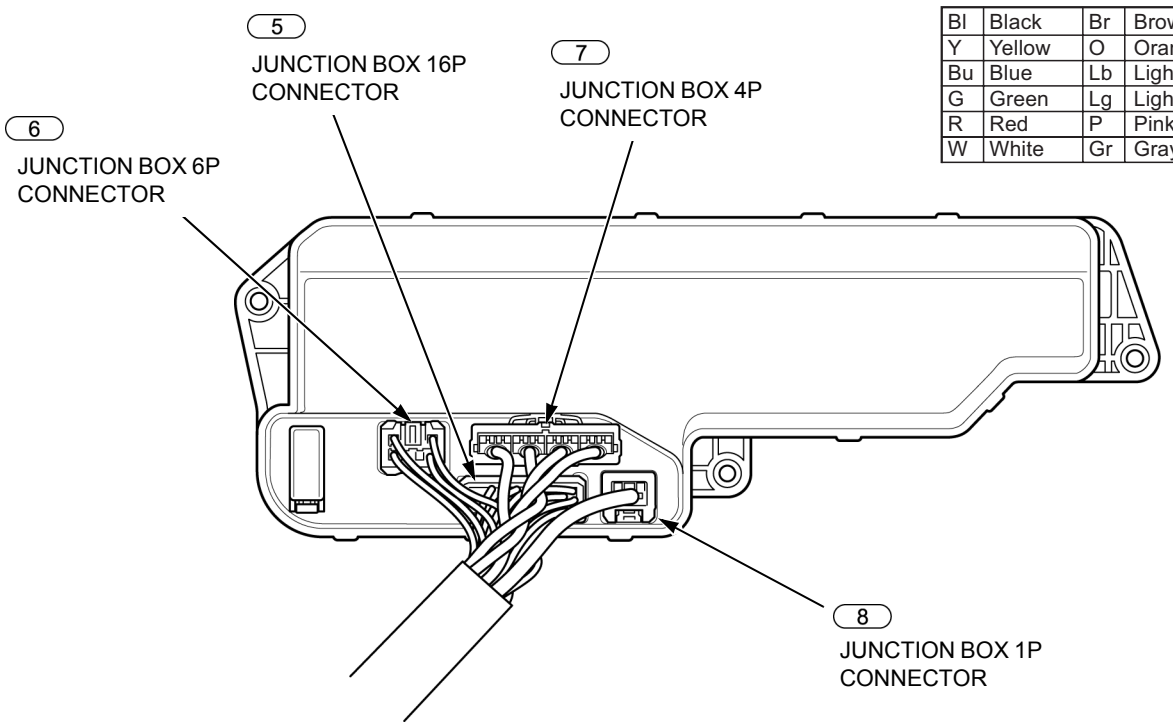
DC WINDING SIDE

Terminal number	Wire color
1	W/R
2	Br
3	Br

Terminal number	Wire color
GND2	Y/G

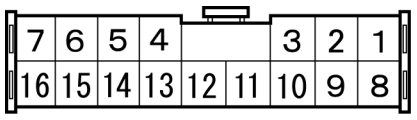
CONTROL PANEL HARNESS ROUTING

JUNCTION BOX/GENERATOR SIDE (CX-RHH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

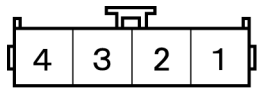
5



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Bl
2	Bl
3	–
4	Y
5	Y
6	–
7	–
8	–
9	W
10	–
11	Lg
12	Bl/W
13	G/W
14	–
15	Gr
16	–

7



MAIN WIRE
HARNESS SIDE

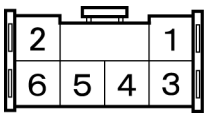
Terminal number	Wire color
1	–
2	Br
3	W
4	–

8

MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Y/G

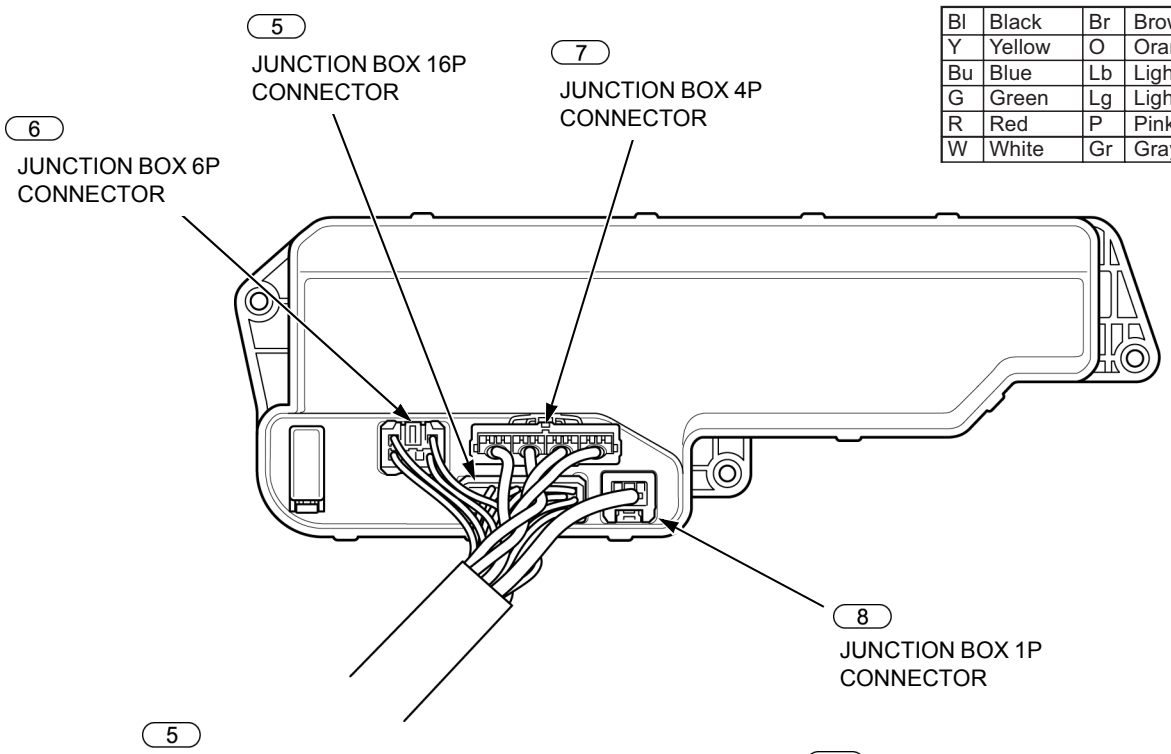
6



MAIN WIRE
HARNESS SIDE

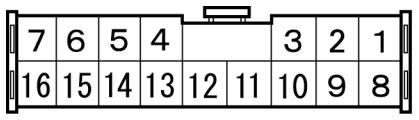
Terminal number	Wire color
1	R
2	W
3	Bu
4	–
5	–
6	Bu

JUNCTION BOX/GENERATOR SIDE (CXS-RHH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

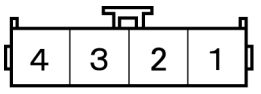
5



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl
2	Bl
3	–
4	Y
5	Y
6	–
7	–
8	–
9	W
10	–
11	Lg
12	Bl/W
13	G/W
14	Bl/W
15	Gr
16	W

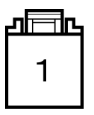
7



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	–
2	Br
3	W
4	–

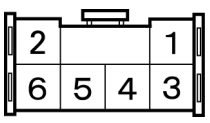
8



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Y/G

6

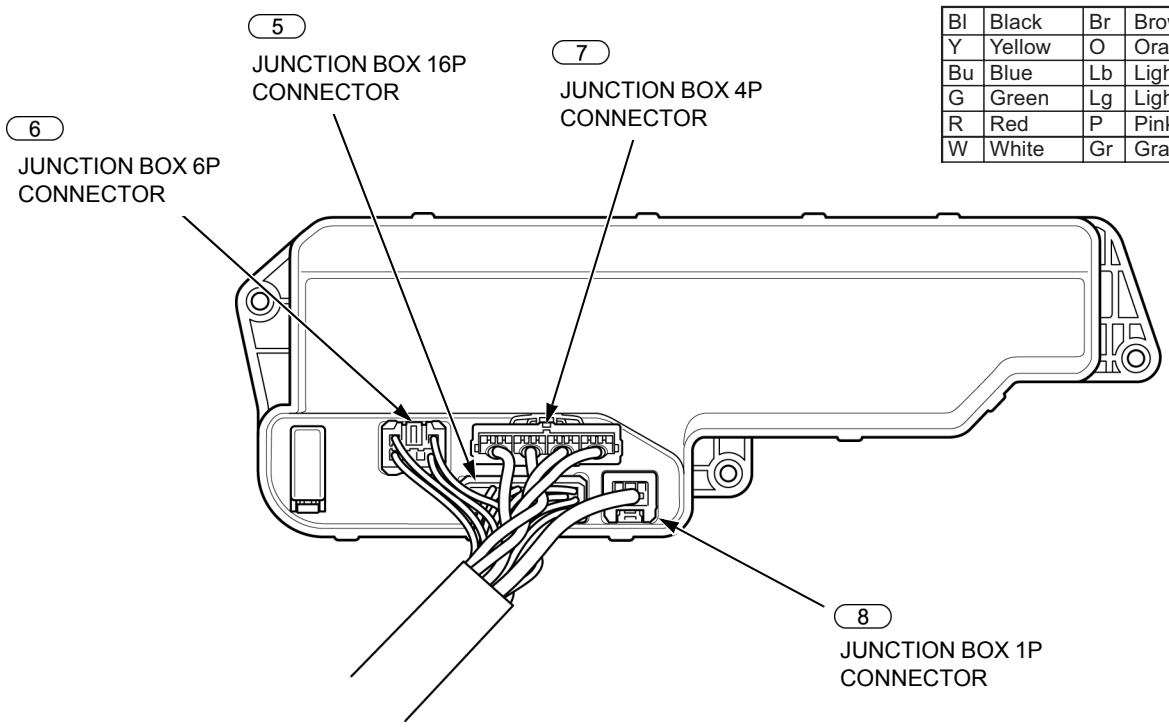


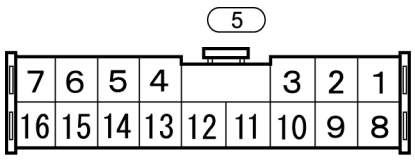
MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	R
2	W
3	Bu
4	–
5	–
6	Bu

JUNCTION BOX/GENERATOR SIDE (CX-MH, UH, RH, KH, SH, SKH, RGH TYPE)

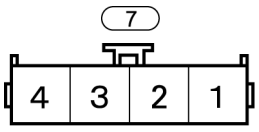
Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray





MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Bl
2	Bl
3	Bl/R
4	Y
5	Y
6	–
7	–
8	W/R
9	W
10	–
11	Lg
12	Bl/W
13	G/W
14	–
15	Gr
16	–

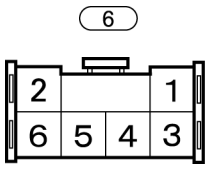


MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	–
2	Br
3	W
4	–

MAIN WIRE
HARNESS SIDE

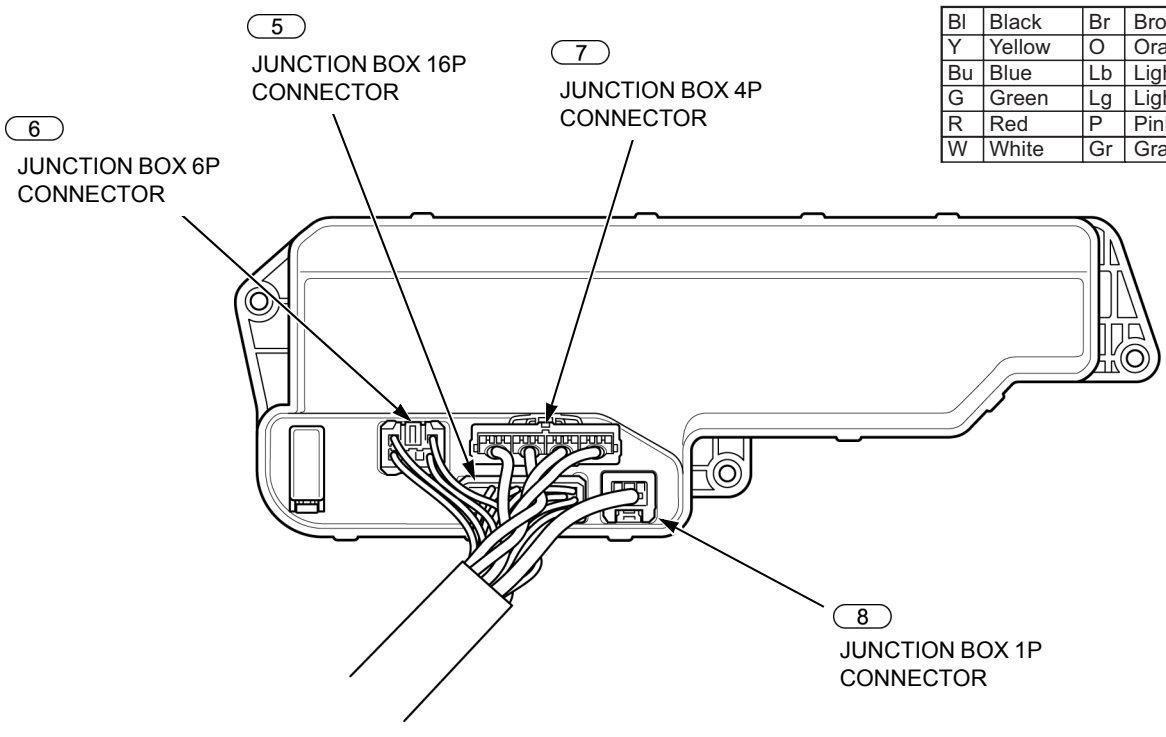
Terminal number	Wire color
1	Y/G



MAIN WIRE
HARNESS SIDE

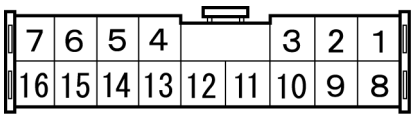
Terminal number	Wire color
1	R
2	W
3	Bu
4	–
5	–
6	Bu

JUNCTION BOX/GENERATOR SIDE (CXS-MH, UH, RH, KH, SH, SKH, RGH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

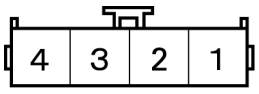
5



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Bl
2	Bl
3	Bl/R
4	Y
5	Y
6	–
7	–
8	W/R
9	W
10	–
11	Lg
12	Bl/W
13	G/W
14	Bl/W
15	Gr
16	W

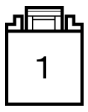
7



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	–
2	Br
3	W
4	–

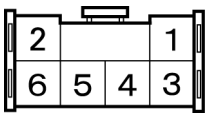
8



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Y/G

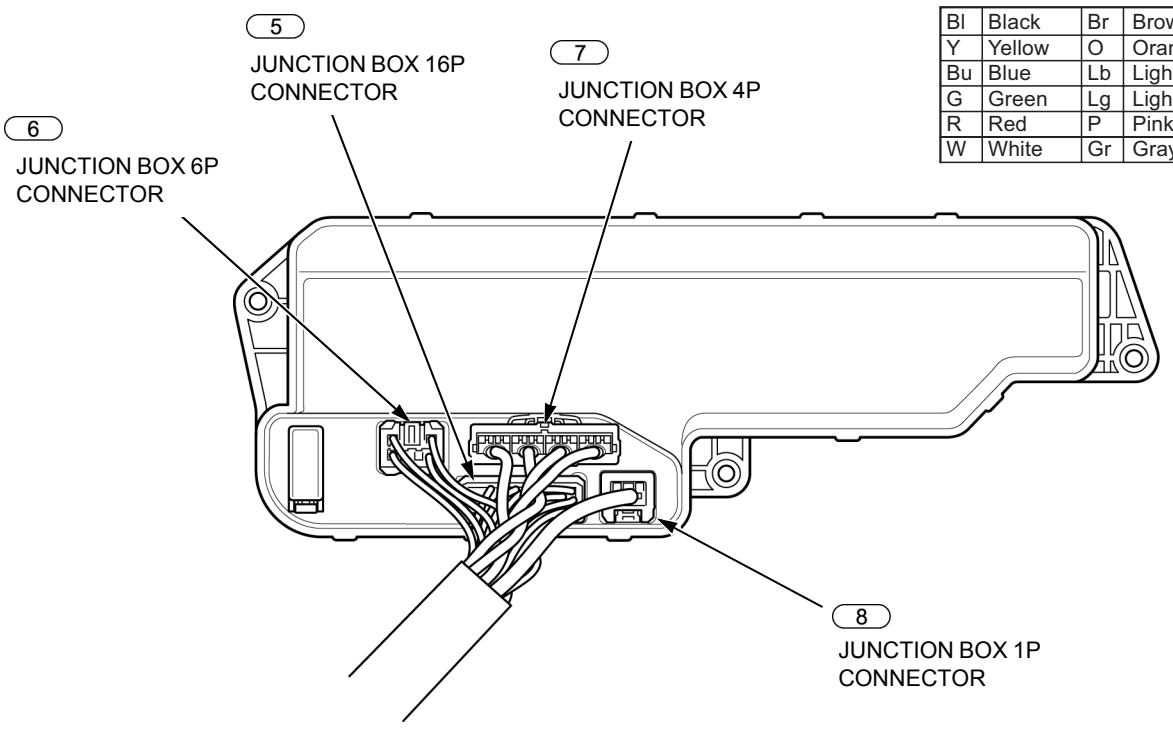
6



MAIN WIRE
HARNESS SIDE

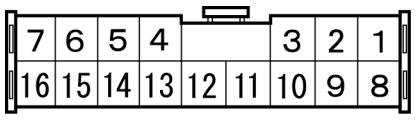
Terminal number	Wire color
1	R
2	W
3	Bu
4	–
5	–
6	Bu

JUNCTION BOX/GENERATOR SIDE (CX-LDH, LTH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

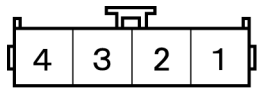
5



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Bl
2	Bl
3	Bl/R
4	Y
5	Y
6	–
7	–
8	W/R
9	W
10	–
11	Lg
12	Bl/W
13	G/W
14	–
15	Gr
16	–

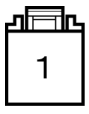
7



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Gr
2	R
3	W
4	Bu

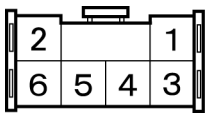
8



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Y/G

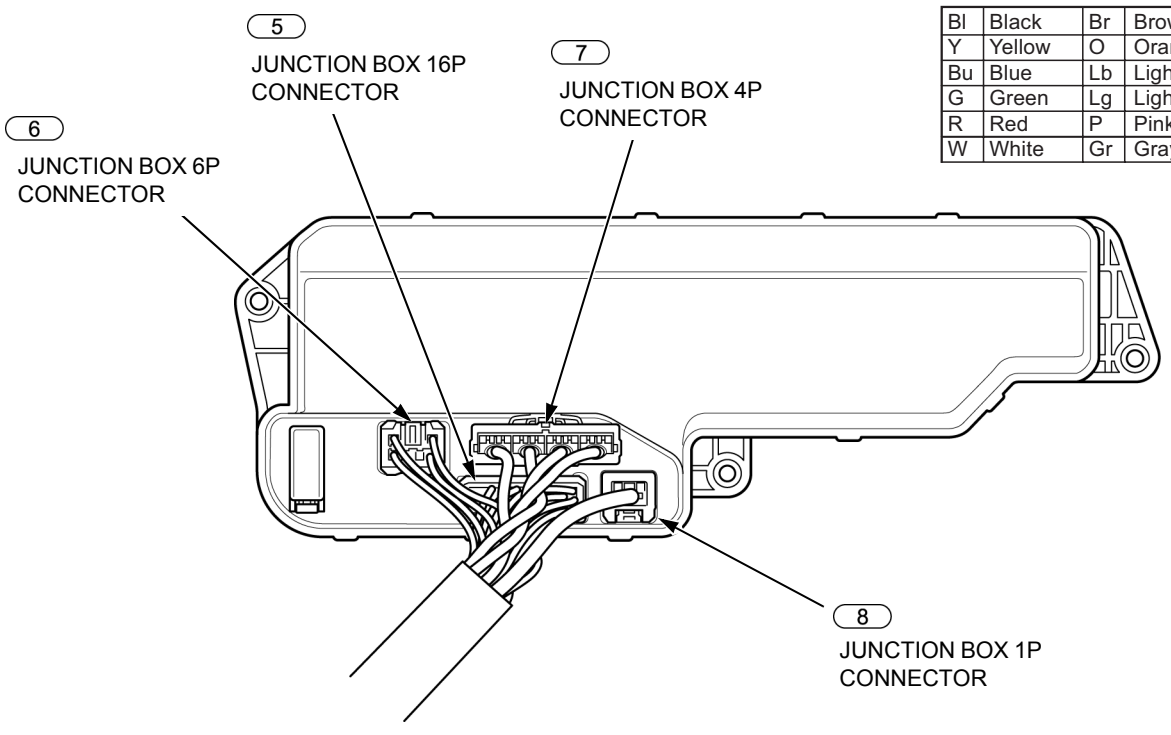
6



MAIN WIRE
HARNESS SIDE

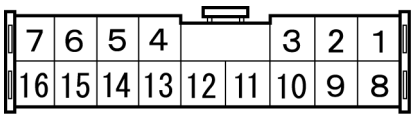
Terminal number	Wire color
1	R
2	W
3	Bu
4	–
5	–
6	Bu

JUNCTION BOX/GENERATOR SIDE (CXS-LDH, LTH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

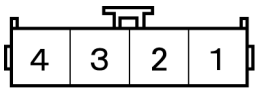
5



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Bl
2	Bl
3	Bl/R
4	Y
5	Y
6	–
7	–
8	W/R
9	W
10	–
11	Lg
12	Bl/W
13	G/W
14	Bl/W
15	Gr
16	W

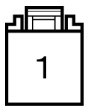
7



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Gr
2	R
3	W
4	Bu

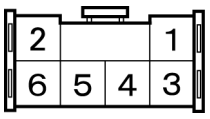
8



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Y/G

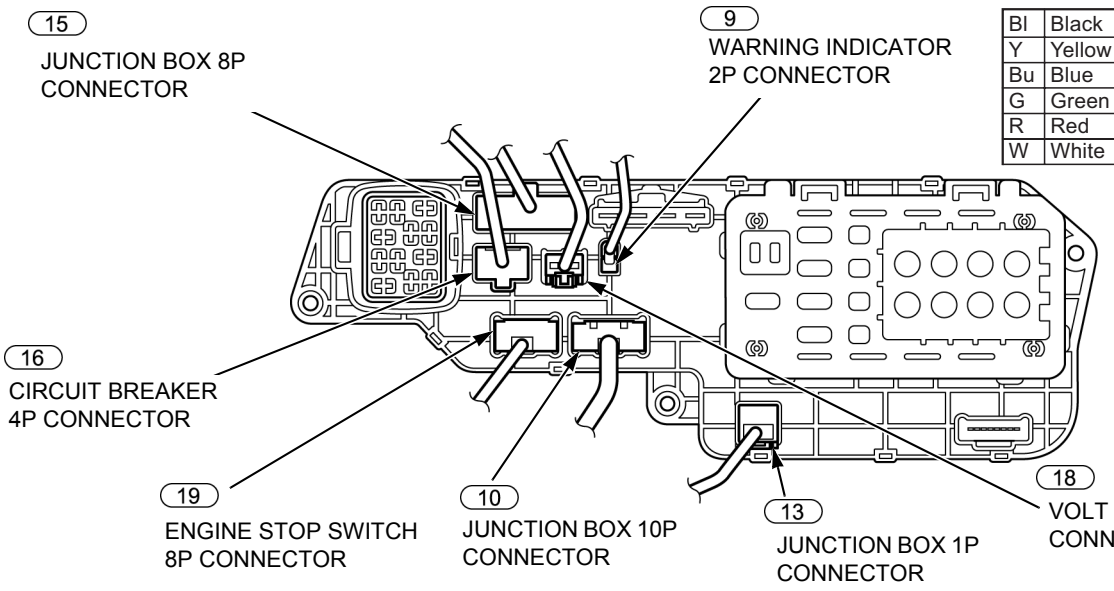
6



MAIN WIRE
HARNESS SIDE

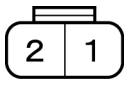
Terminal number	Wire color
1	R
2	W
3	Bu
4	–
5	–
6	Bu

JUNCTION BOX/CONTROL PANEL SIDE (CX-RHH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

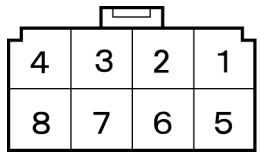
9



WARNING INDICATOR SIDE

Terminal number	Wire color
1	R
2	W

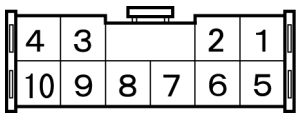
15



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	–
2	–
3	–
4	–
5	–
6	–
7	–
8	W

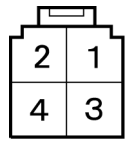
10



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	–
3	–
4	Y/G
5	–
6	–
7	Bl/W
8	–
9	–
10	Bu

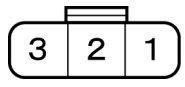
16



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	R
2	–
3	–
4	–

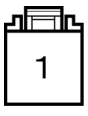
18



VOLT METER SIDE

Terminal number	Wire color
1	W
2	–
3	R

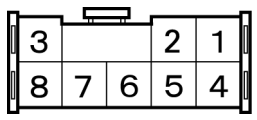
13



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Y/G

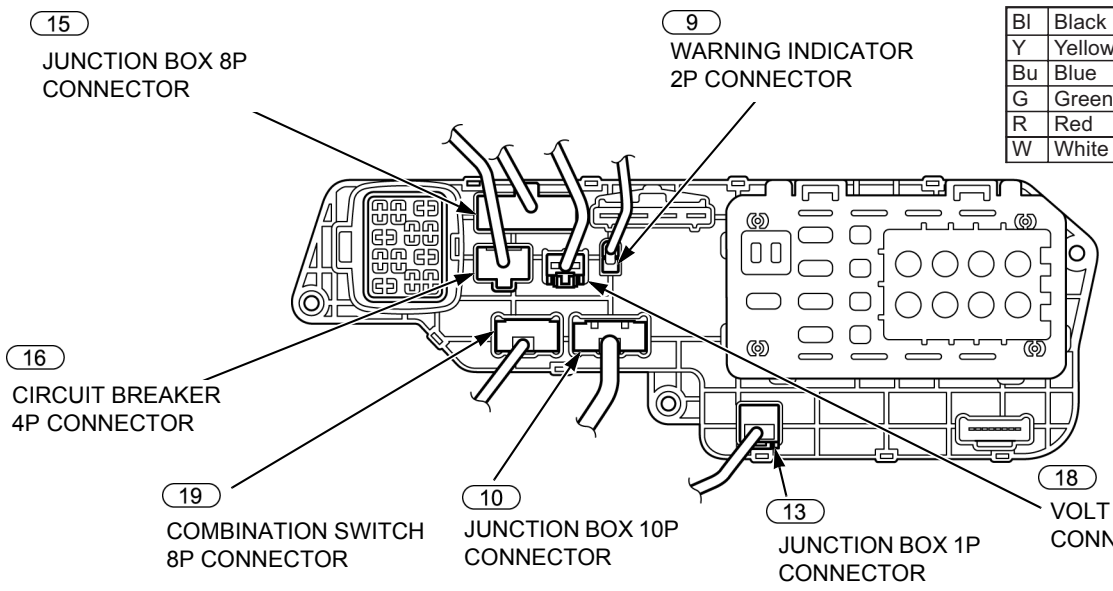
19



ENGINE STOP SWITCH SIDE

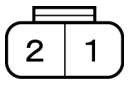
Terminal number	Wire color
1	Bu
2	–
3	Y/G
4	Bl
5	–
6	–
7	G/W
8	–

JUNCTION BOX/CONTROL PANEL SIDE (CXS-RHH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

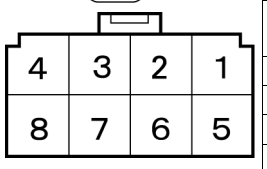
9



WARNING INDICATOR SIDE

Terminal number	Wire color
1	R
2	W

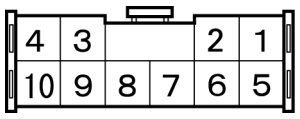
15



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	–
2	–
3	–
4	–
5	–
6	–
7	–
8	W

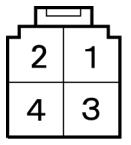
10



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	–
3	Y/G
4	Y/G
5	Br
6	–
7	Bl/W
8	–
9	W
10	Bu

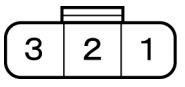
16



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	R
2	–
3	–
4	–

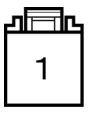
18



VOLT METER SIDE

Terminal number	Wire color
1	W
2	–
3	R

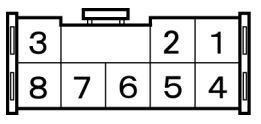
13



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Y/G

19

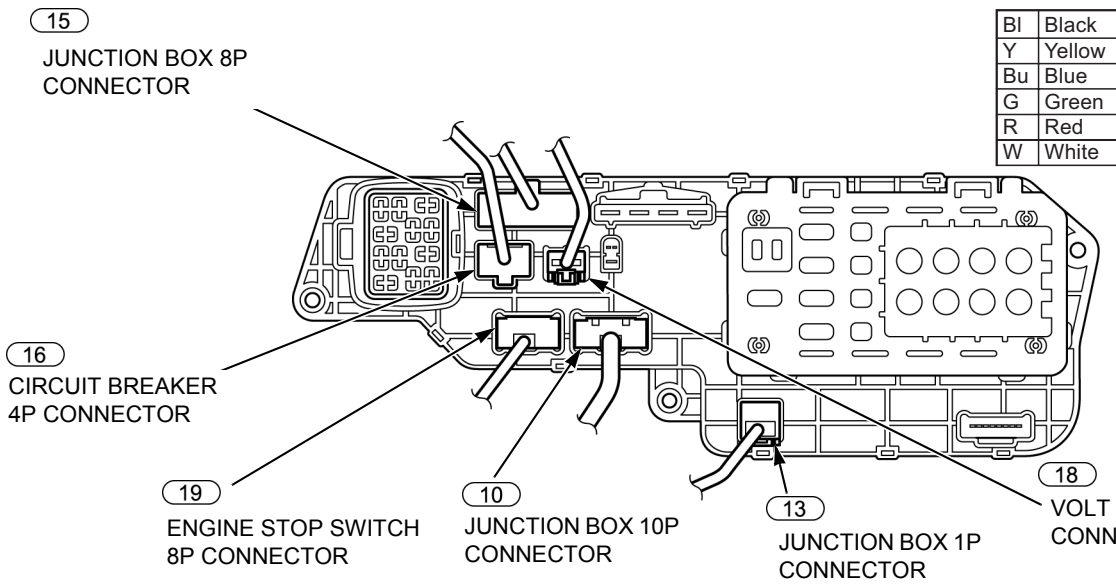


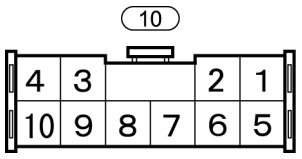
COMBINATION SWITCH SIDE

Terminal number	Wire color
1	Bu
2	–
3	G
4	Bl
5	–
6	W
7	G/W
8	Bl/W

JUNCTION BOX/CONTROL PANEL SIDE (CX-MH, RH, KH, SH, RGH TYPE)

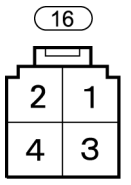
Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray





MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Bl/R
3	–
4	Y/G
5	–
6	W/R
7	Bl/W
8	–
9	–
10	Bu

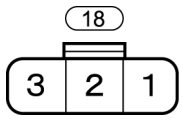


MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	R
2	–
3	–
4	–

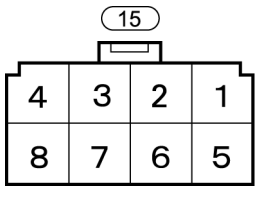
Terminal number	Wire color
1	Y/G

MAIN WIRE HARNESS SIDE



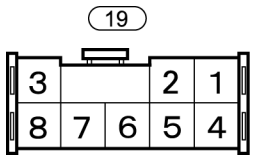
VOLT METER SIDE

Terminal number	Wire color
1	W
2	–
3	R



MAIN WIRE HARNESS SIDE

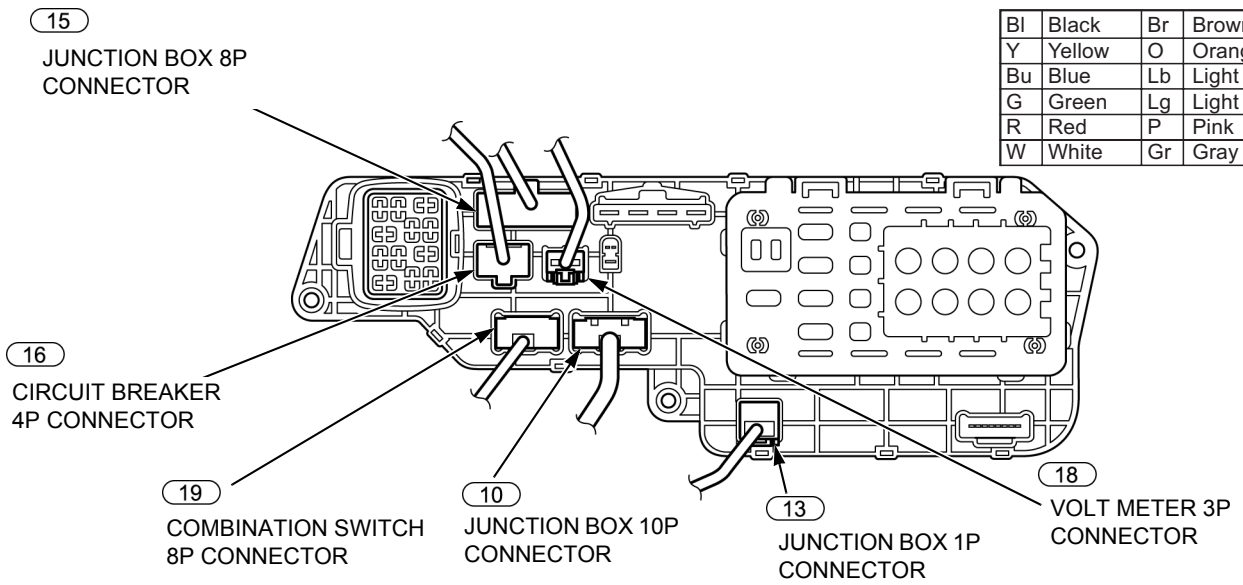
Terminal number	Wire color
1	–
2	–
3	–
4	–
5	–
6	–
7	–
8	W



ENGINE STOP SWITCH SIDE

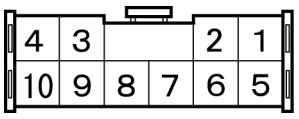
Terminal number	Wire color
1	Bu
2	–
3	Y/G
4	Bl
5	–
6	–
7	G/W
8	–

JUNCTION BOX/CONTROL PANEL SIDE (CXS-MH, RH, KH, SH, RGH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

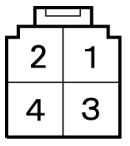
10



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Bl/R
3	Y/G
4	Y/G
5	Br
6	W/R
7	Bl/W
8	–
9	W
10	Bu

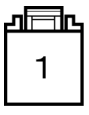
16



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	R
2	–
3	–
4	–

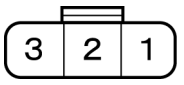
13



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Y/G

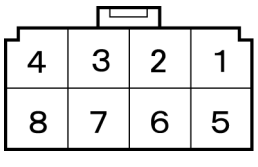
18



VOLT METER SIDE

Terminal number	Wire color
1	W
2	–
3	R

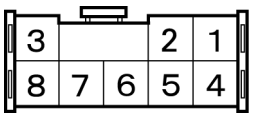
15



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	–
2	–
3	–
4	–
5	–
6	–
7	–
8	W

19

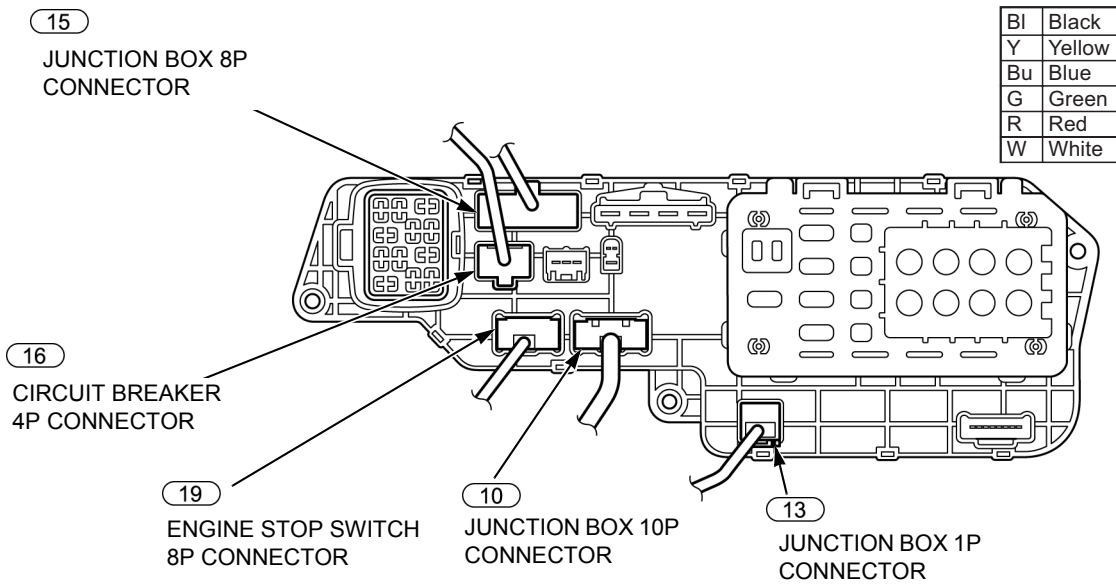


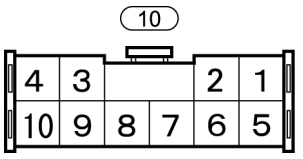
COMBINATION SWITCH SIDE

Terminal number	Wire color
1	Bu
2	–
3	G
4	Bl
5	–
6	W
7	G/W
8	Bl/W

JUNCTION BOX/CONTROL PANEL SIDE (CX-UH TYPE)

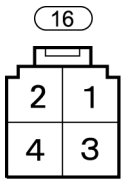
Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray





MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Bl/R
3	–
4	Y/G
5	–
6	W/R
7	Bl/W
8	–
9	–
10	Bu

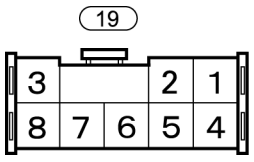


MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	R
2	R
3	–
4	–

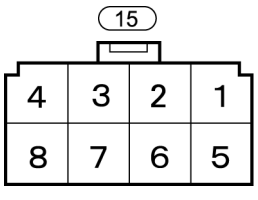
MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Y/G



ENGINE STOP SWITCH SIDE

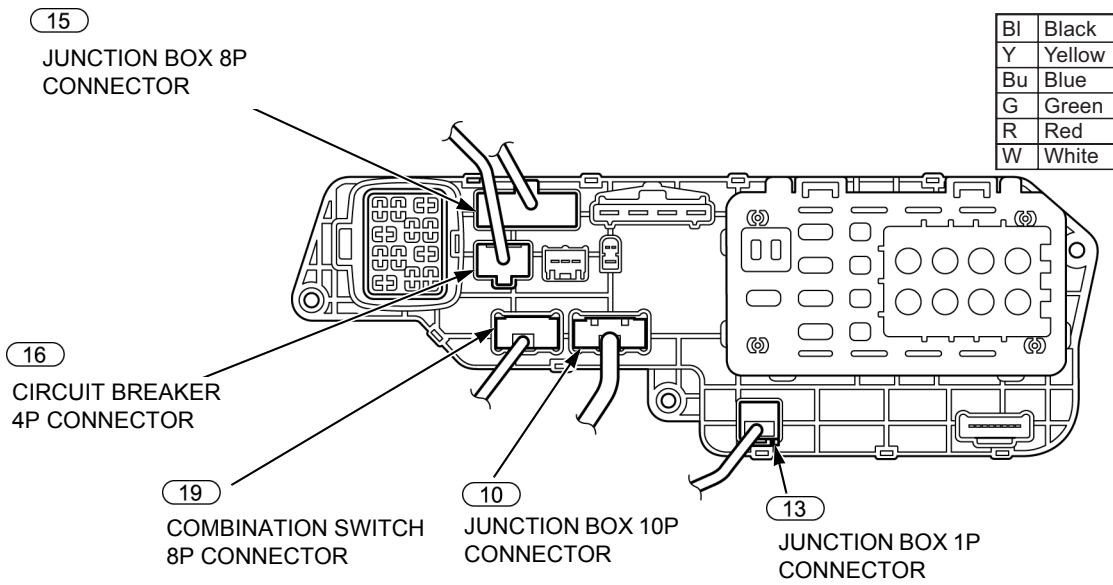
Terminal number	Wire color
1	Bu
2	–
3	Y/G
4	Bl
5	–
6	–
7	G/W
8	–



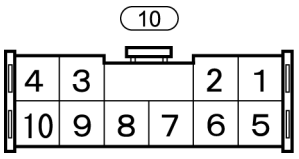
MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	–
2	R
3	–
4	Y/G
5	–
6	–
7	W
8	W

JUNCTION BOX/CONTROL PANEL SIDE (CXS-UH TYPE)

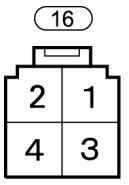


Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Bl/R
3	Y/G
4	Y/G
5	Br
6	W/R
7	Bl/W
8	–
9	W
10	Bu

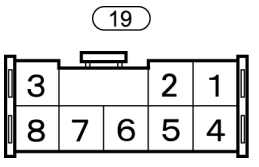


MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	R
2	R
3	–
4	–

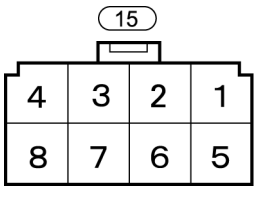
MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Y/G



COMBINATION SWITCH SIDE

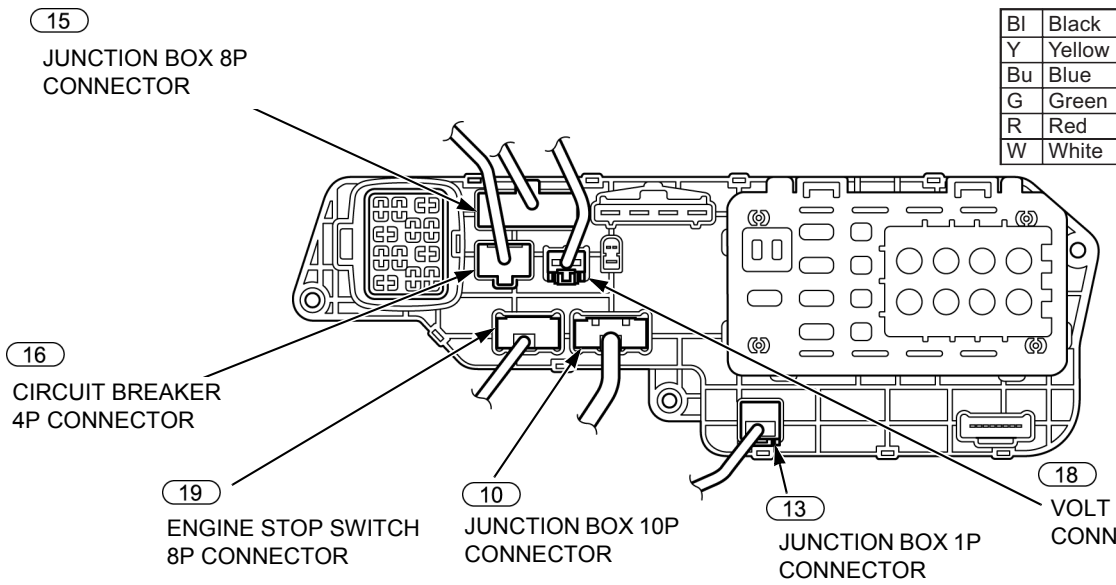
Terminal number	Wire color
1	Bu
2	–
3	G
4	Bl
5	–
6	W
7	G/W
8	Bl/W



MAIN WIRE HARNESS SIDE

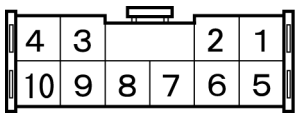
Terminal number	Wire color
1	–
2	R
3	–
4	Y/G
5	–
6	–
7	W
8	W

JUNCTION BOX/CONTROL PANEL SIDE (CX-SKH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

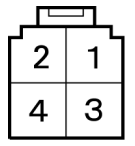
10



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Bl/R
3	–
4	Y/G
5	–
6	W/R
7	Bl/W
8	–
9	–
10	Bu

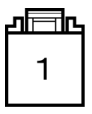
16



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Br
3	–
4	–

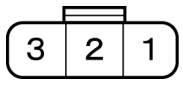
13



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Y/G

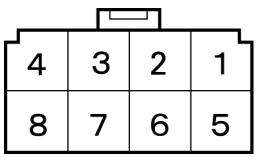
18



VOLT METER SIDE

Terminal number	Wire color
1	W
2	–
3	R

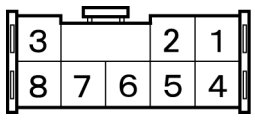
15



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Br
3	Y/G
4	Y/G
5	W
6	–
7	W
8	W

19

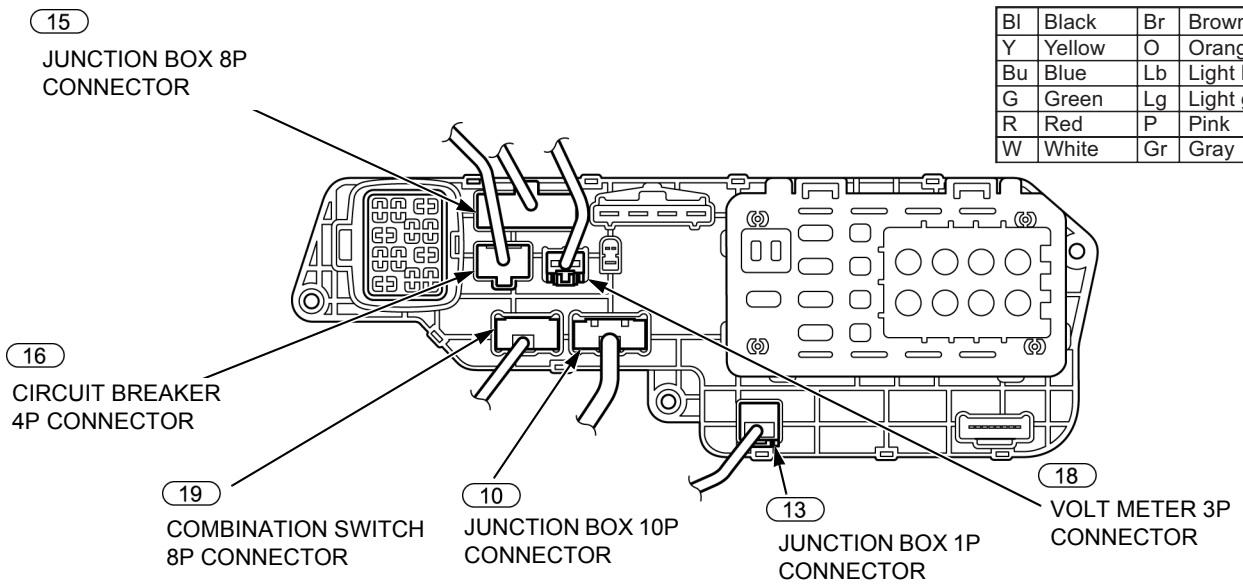


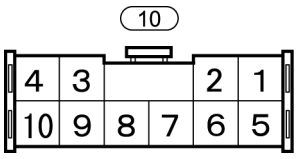
ENGINE STOP SWITCH SIDE

Terminal number	Wire color
1	Bu
2	–
3	Y/G
4	Bl
5	–
6	–
7	G/W
8	–

JUNCTION BOX/CONTROL PANEL SIDE (CXS-SKH TYPE)

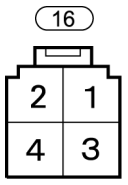
Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray





MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Bl/R
3	Y/G
4	Y/G
5	Br
6	W/R
7	Bl/W
8	–
9	W
10	Bu

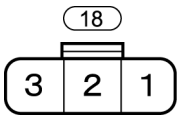


MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Br
3	–
4	–

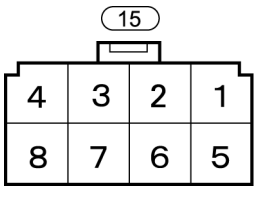
Terminal number	Wire color
1	Y/G

MAIN WIRE HARNESS SIDE



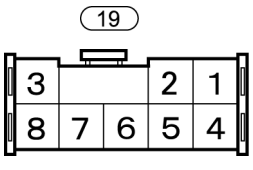
VOLT METER SIDE

Terminal number	Wire color
1	W
2	–
3	R



MAIN WIRE HARNESS SIDE

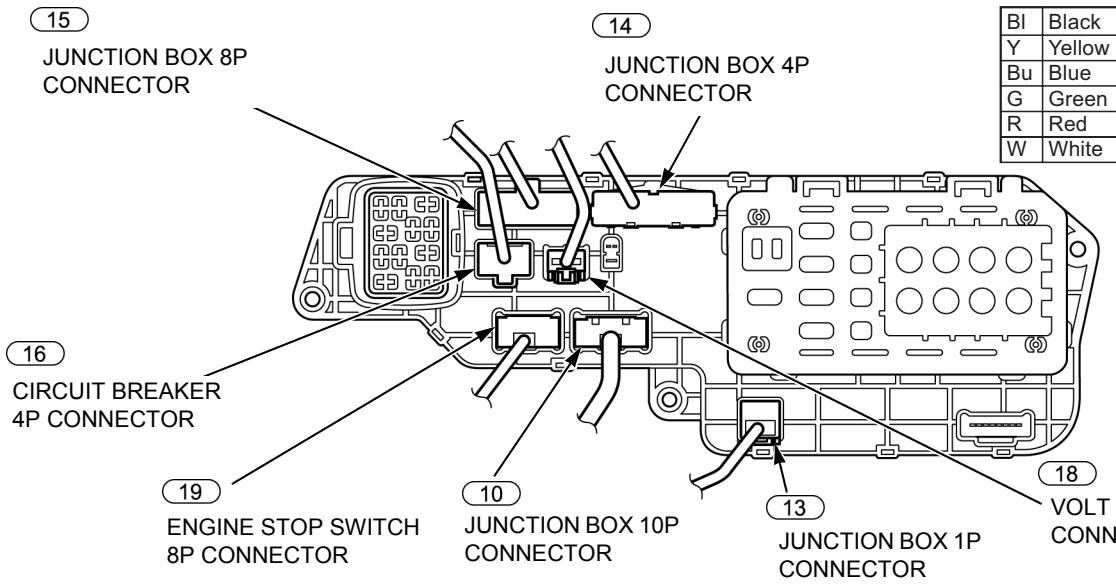
Terminal number	Wire color
1	Br
2	Br
3	Y/G
4	Y/G
5	W
6	–
7	W
8	W



COMBINATION SWITCH SIDE

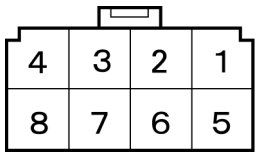
Terminal number	Wire color
1	Bu
2	–
3	G
4	Bl
5	–
6	W
7	G/W
8	Bl/W

JUNCTION BOX/CONTROL PANEL SIDE (CX-LDH, LTH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

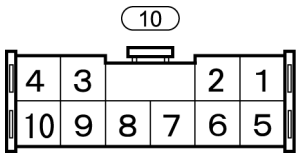
15



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bu
2	Bu
3	–
4	–
5	R
6	R
7	W
8	W

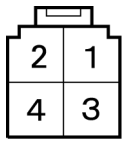
10



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Bl/R
3	–
4	Y/G
5	–
6	W/R
7	Bl/W
8	–
9	–
10	Bu

16



MAIN WIRE HARNESS SIDE

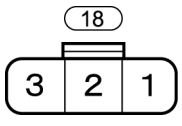
Terminal number	Wire color
1	R
2	Bu
3	Br
4	R

13

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Y/G

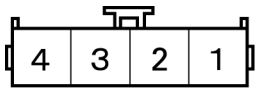
18



VOLT METER SIDE

Terminal number	Wire color
1	W
2	–
3	R

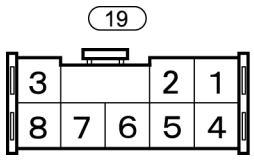
14



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	–
2	W
3	Bu
4	–

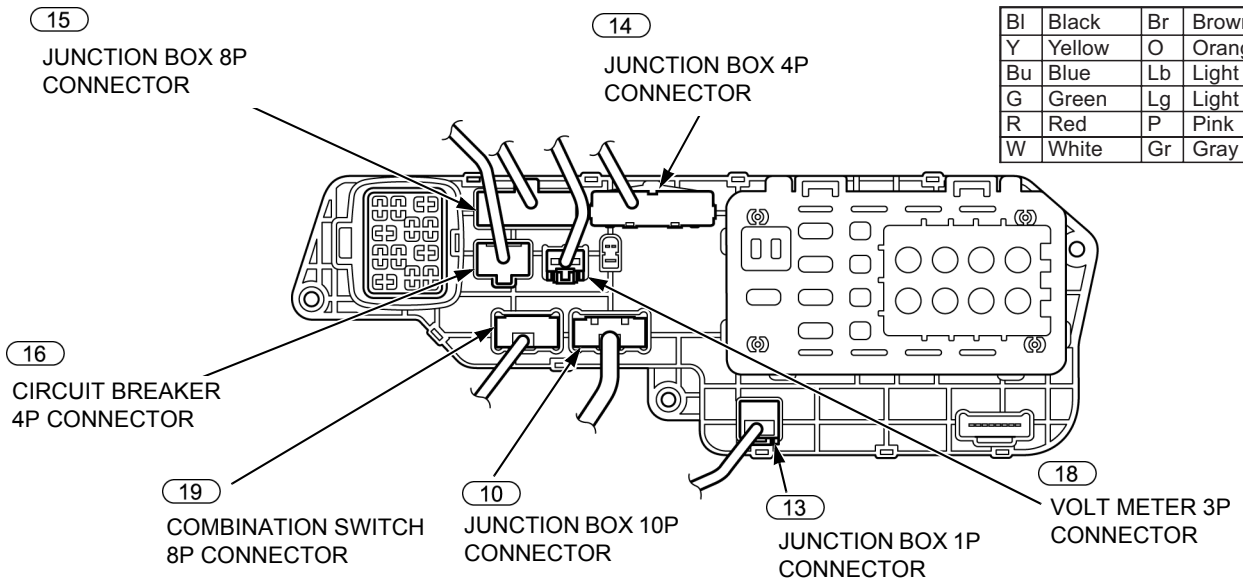
19



ENGINE STOP SWITCH SIDE

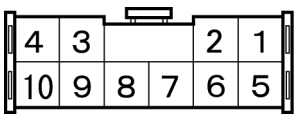
Terminal number	Wire color
1	Bu
2	–
3	Y/G
4	Bl
5	–
6	–
7	G/W
8	–

JUNCTION BOX/CONTROL PANEL SIDE (CXS-LDH, LTH TYPE)



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

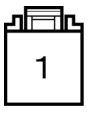
10



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Bl/R
3	Y/G
4	Y/G
5	Br
6	W/R
7	Bl/W
8	–
9	W
10	Bu

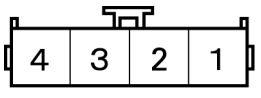
13



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Y/G

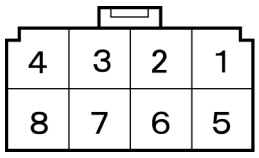
14



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	–
2	W
3	Bu
4	–

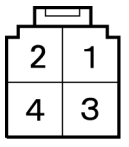
15



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bu
2	Bu
3	–
4	–
5	R
6	R
7	W
8	W

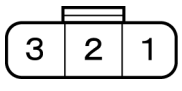
16



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	R
2	Bu
3	Br
4	R

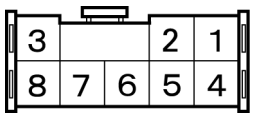
18



VOLT METER SIDE

Terminal number	Wire color
1	W
2	–
3	R

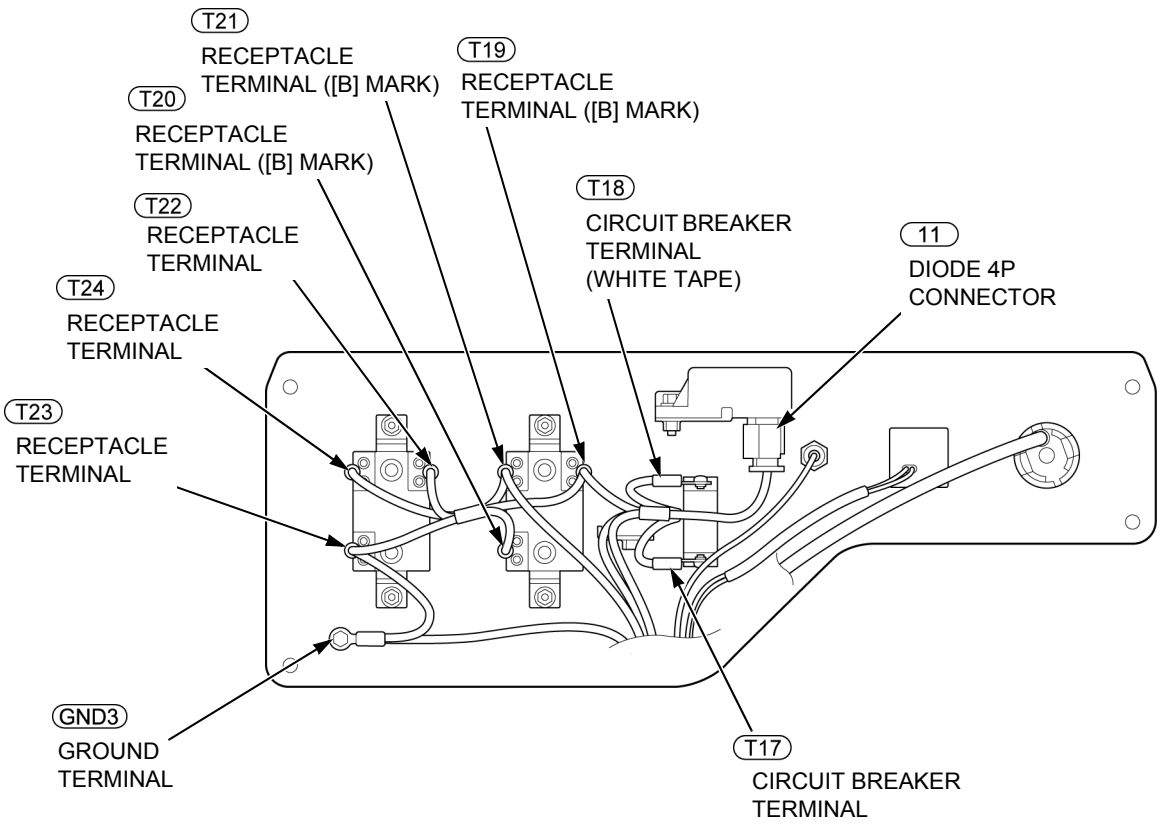
19



COMBINATION SWITCH SIDE

Terminal number	Wire color
1	Bu
2	–
3	G
4	Bl
5	–
6	W
7	G/W
8	Bl/W

CONTROL PANEL SIDE (CX-RHH TYPE)



11

MAIN WIRE
HARNESS SIDE

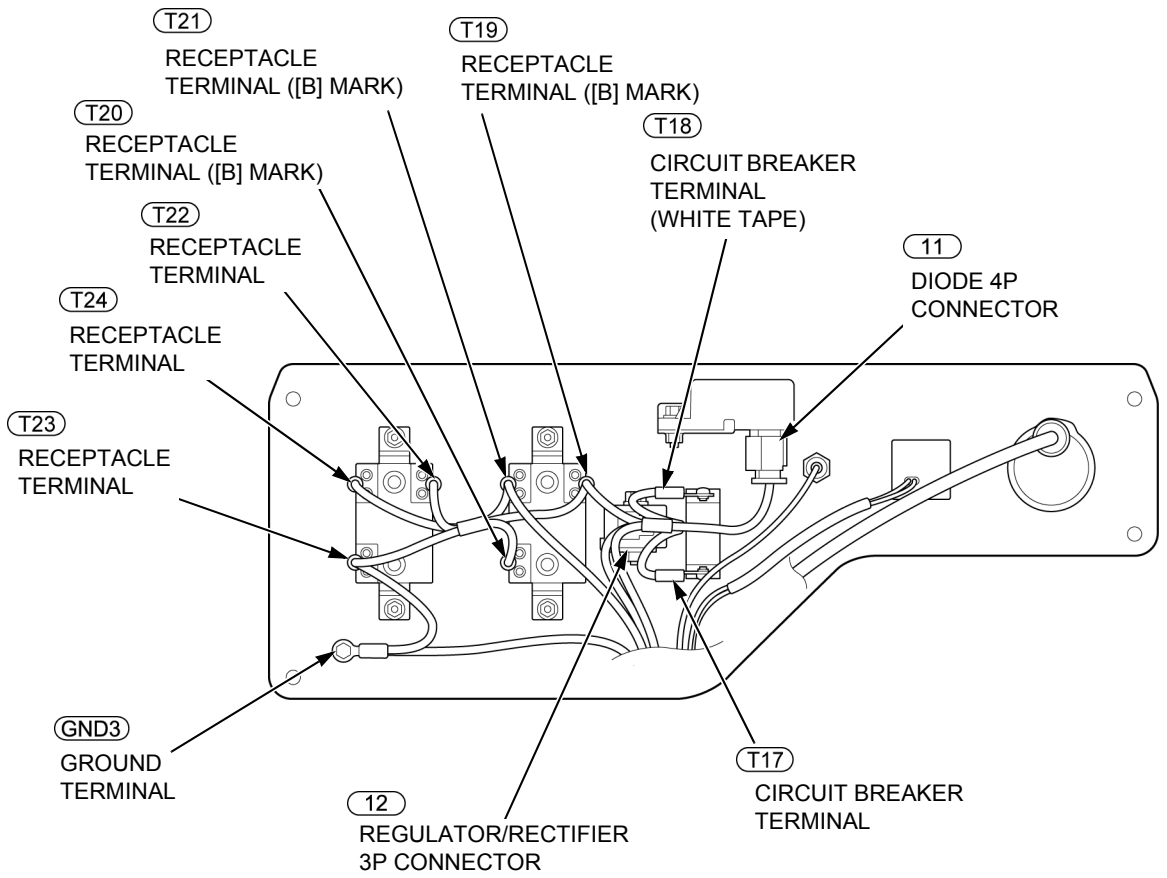
Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

Terminal number	Wire color
T17	R
T18	R
T19	R
T20	Y/G
T21	W
T22	R
T23	Y/G
T24	W

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CXS-RHH TYPE)



11

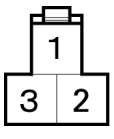
MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

Terminal number	Wire color
T17	R
T18	R
T19	R
T20	Y/G
T21	W
T22	R
T23	Y/G
T24	W

Terminal number	Wire color
GND3	Y/G

12

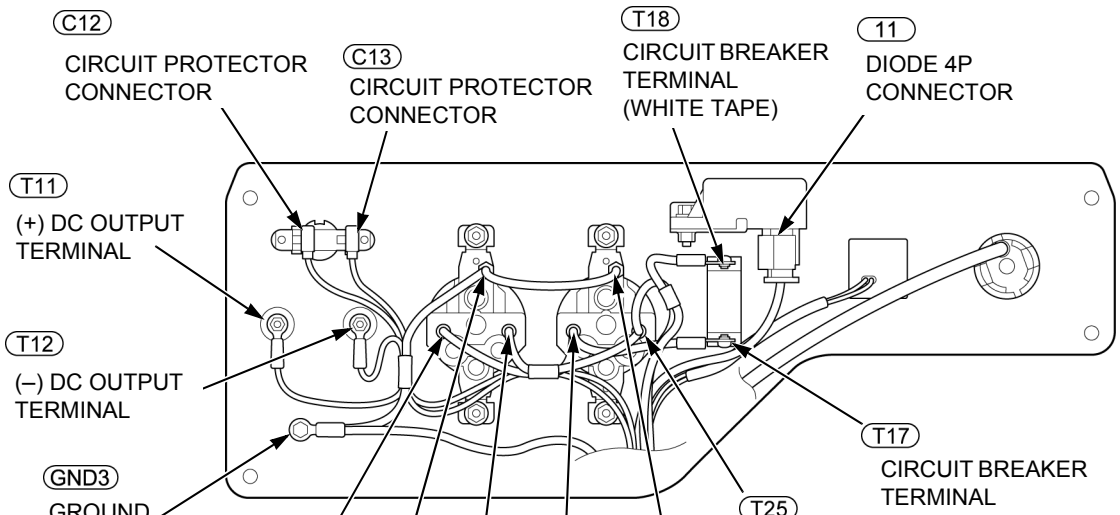


MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Br
2	Y/G
3	W

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CX-MH TYPE)



(11)

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

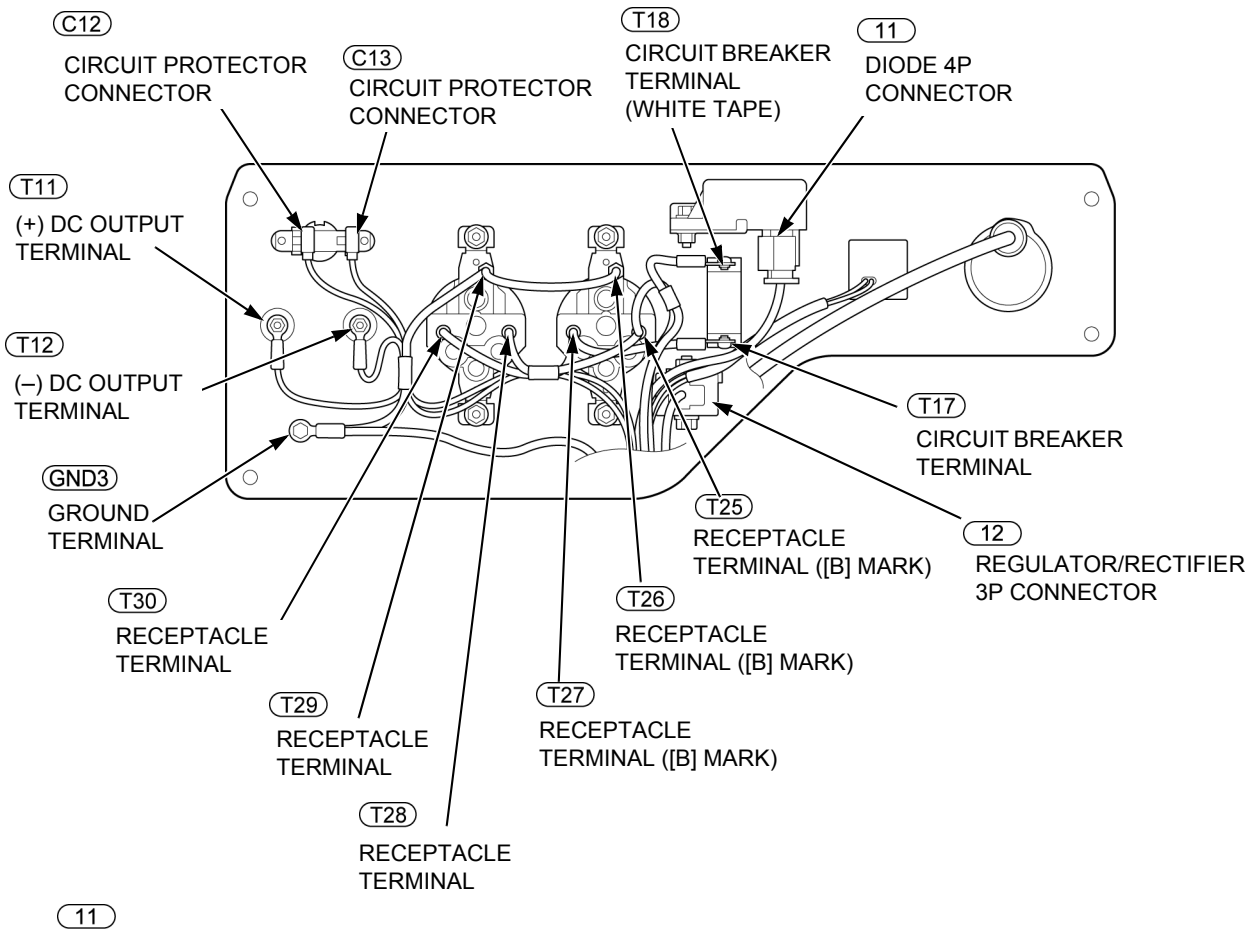
Terminal number	Wire color
T11	W/R
T12	Bl/R
T17	R
T18	R
T25	W
T26	Y/G
T27	R
T28	W
T29	Y/G
T30	R

Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CXS-MH TYPE)

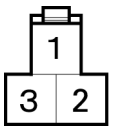


11

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

12



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Y/G
3	W

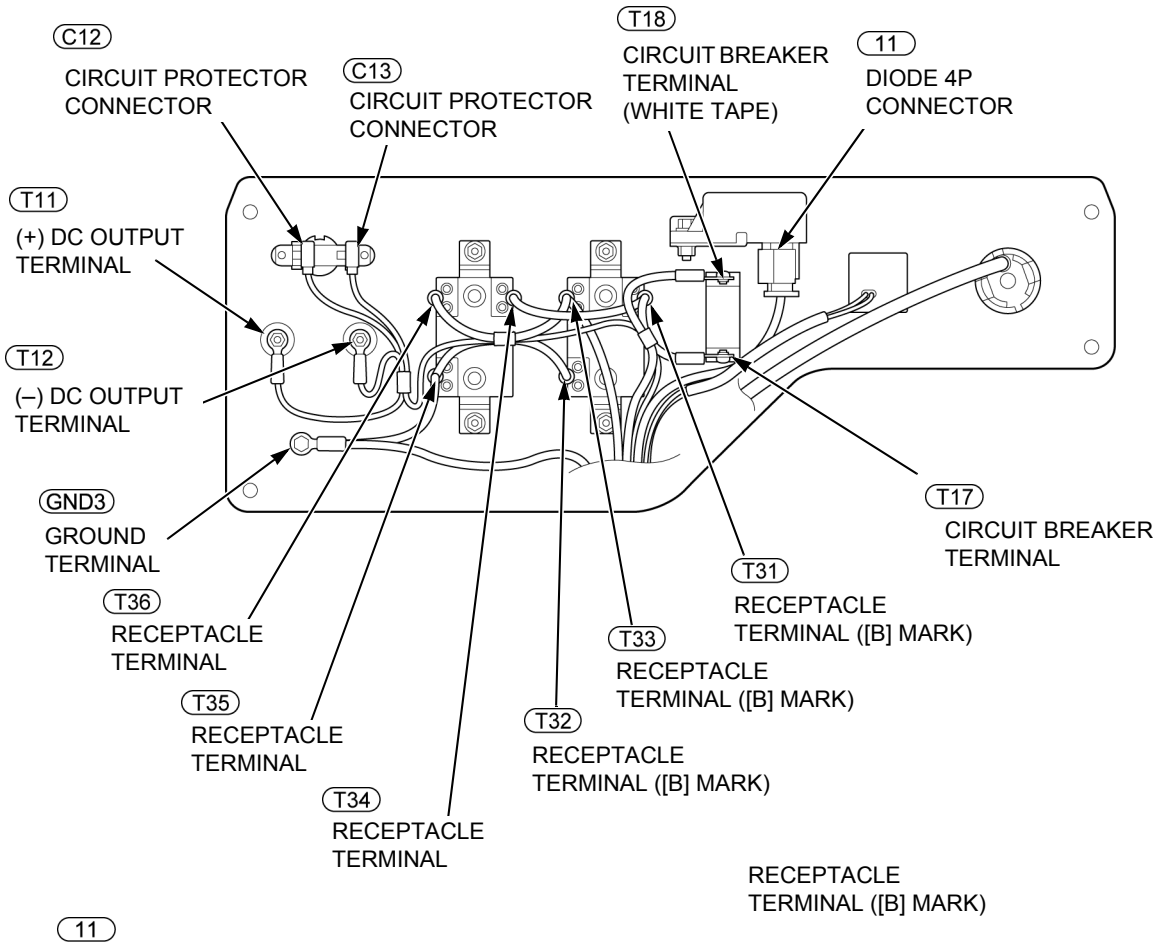
Terminal number	Wire color
T11	W/R
T12	Bl/R
T17	R
T18	R
T25	W
T26	Y/G
T27	R
T28	W
T29	Y/G
T30	R

Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CX-RH, KH, SH TYPE)



11

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

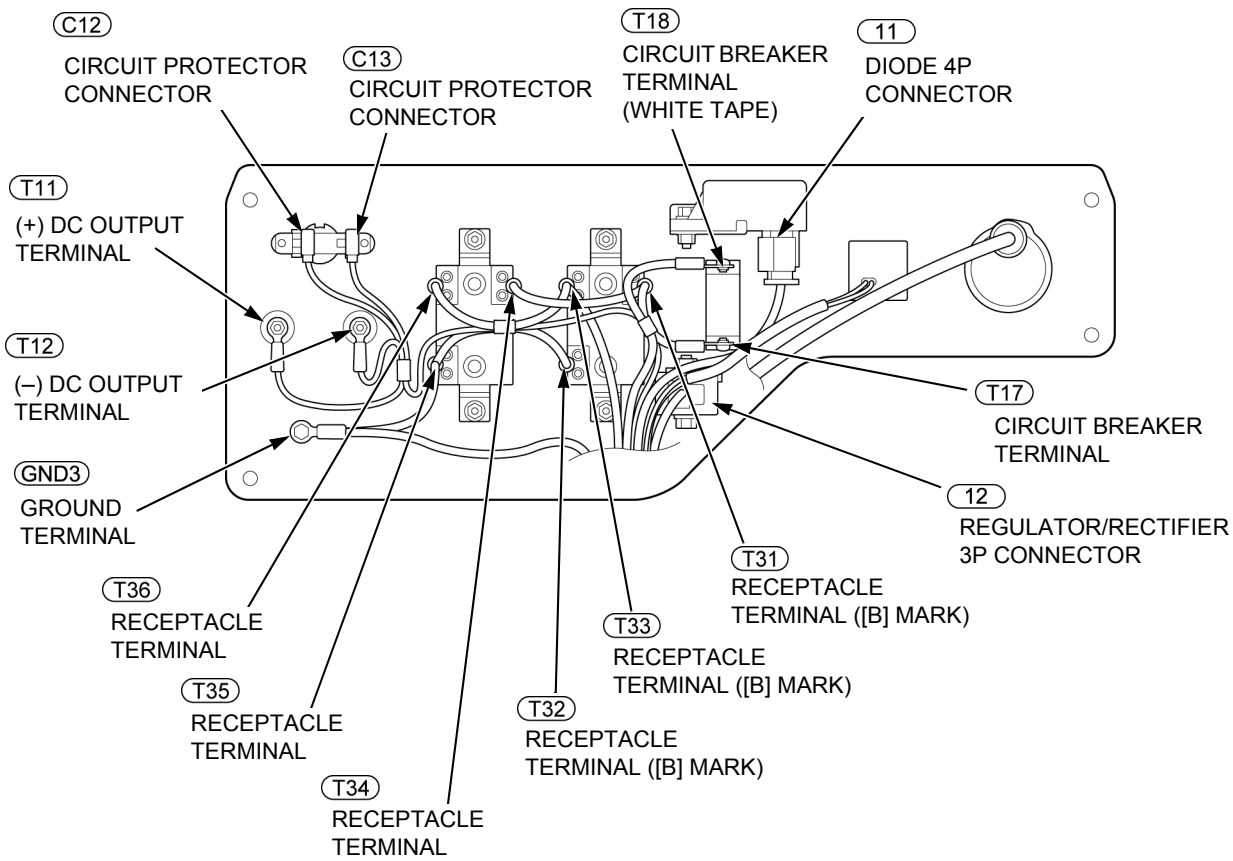
Terminal number	Wire color
T11	W/R
T12	Bl/R
T17	R
T18	R
T31	R
T32	Y/G
T33	W
T34	R
T35	Y/G
T36	W

Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CXS-RH, KH, SH TYPE)

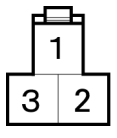


11

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

12



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Y/G
3	W

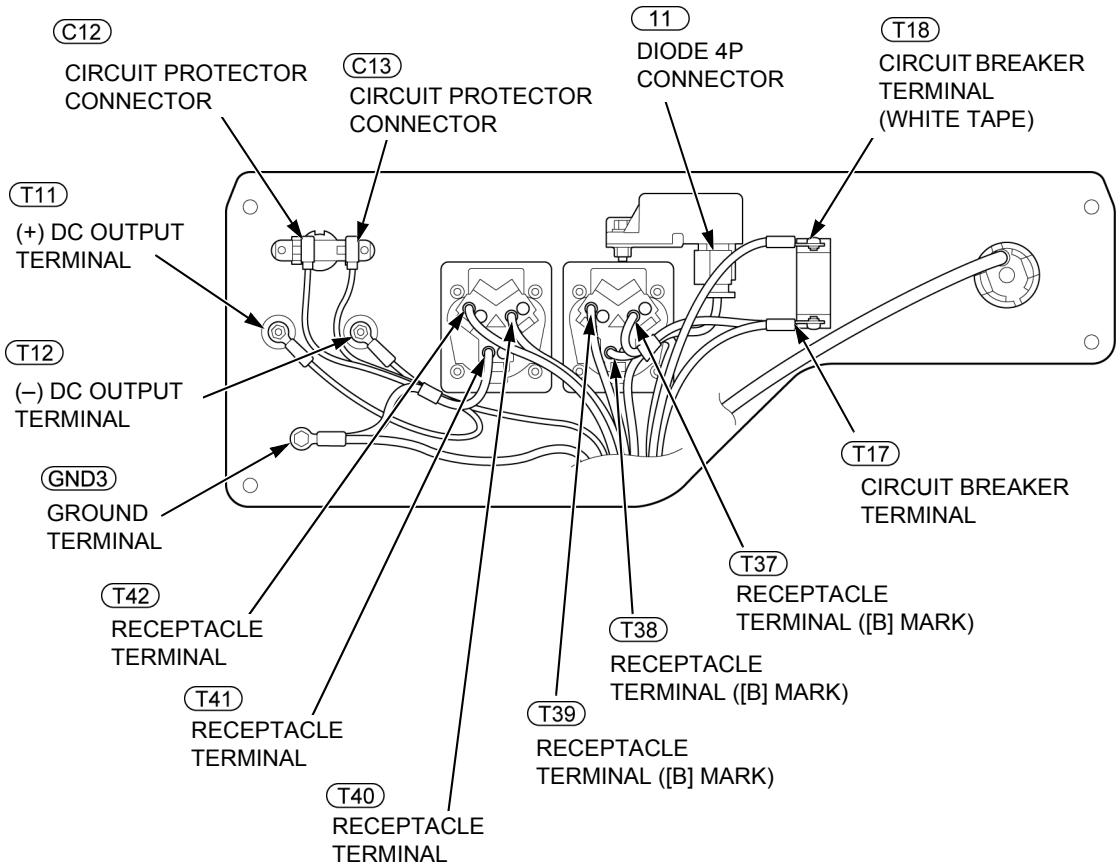
Terminal number	Wire color
T11	W/R
T12	Bl/R
T17	R
T18	R
T31	R
T32	Y/G
T33	W
T34	R
T35	Y/G
T36	W

Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CX-UH TYPE)



(11)

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

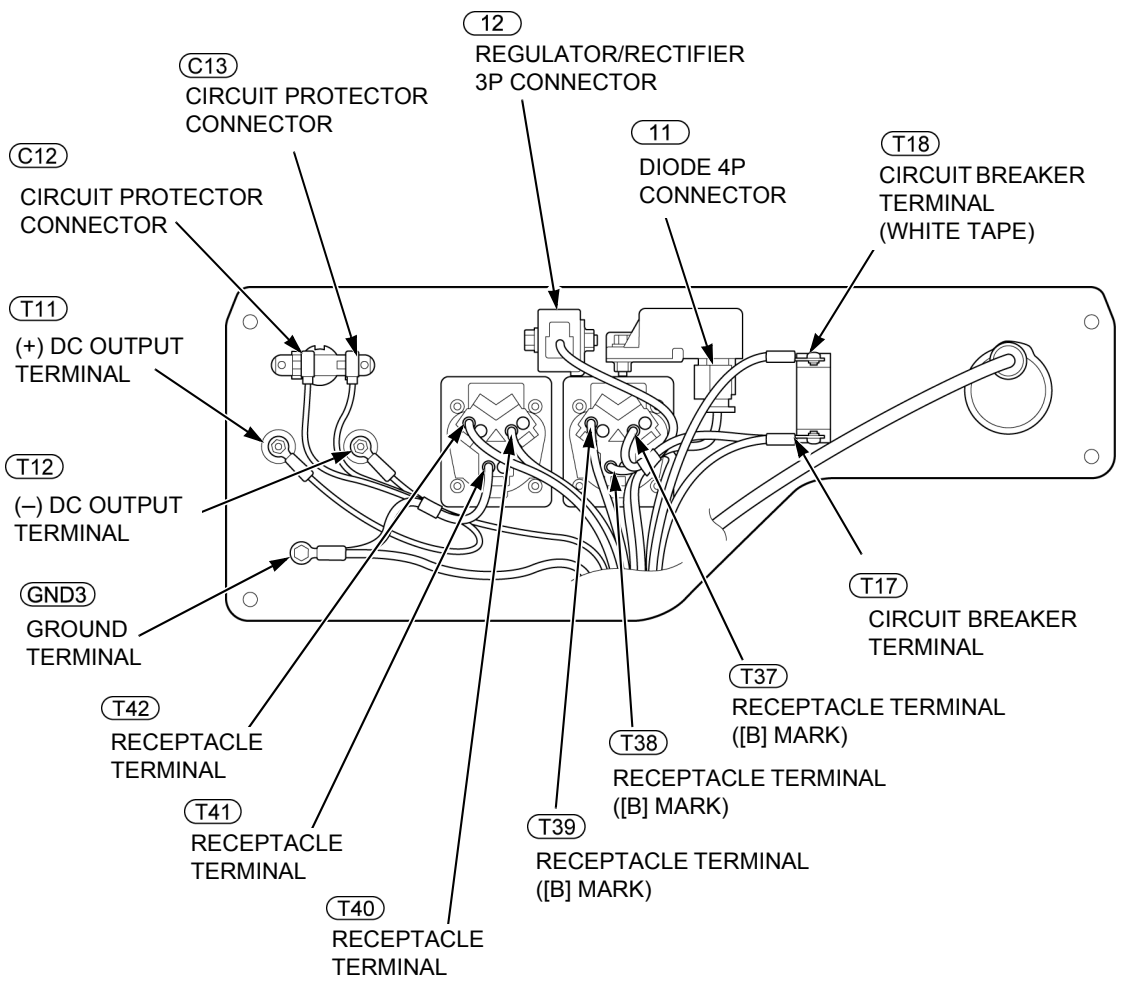
Terminal number	Wire color
(T11)	W/R
(T12)	Bl/R
(T17)	R
(T18)	R
(T37)	R
(T38)	Y/G
(T39)	W
(T40)	R
(T41)	Y/G
(T42)	W

Terminal number	Wire color
(C12)	W/R
(C13)	W/R

Terminal number	Wire color
(GND3)	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CXS-UH TYPE)



11

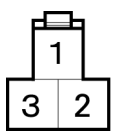
MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

Terminal number	Wire color
T11	W/R
T12	Bl/R
T17	R
T18	R
T37	R
T38	Y/G
T39	W
T40	R
T41	Y/G
T42	W

Terminal number	Wire color
C12	W/R
C13	W/R

12



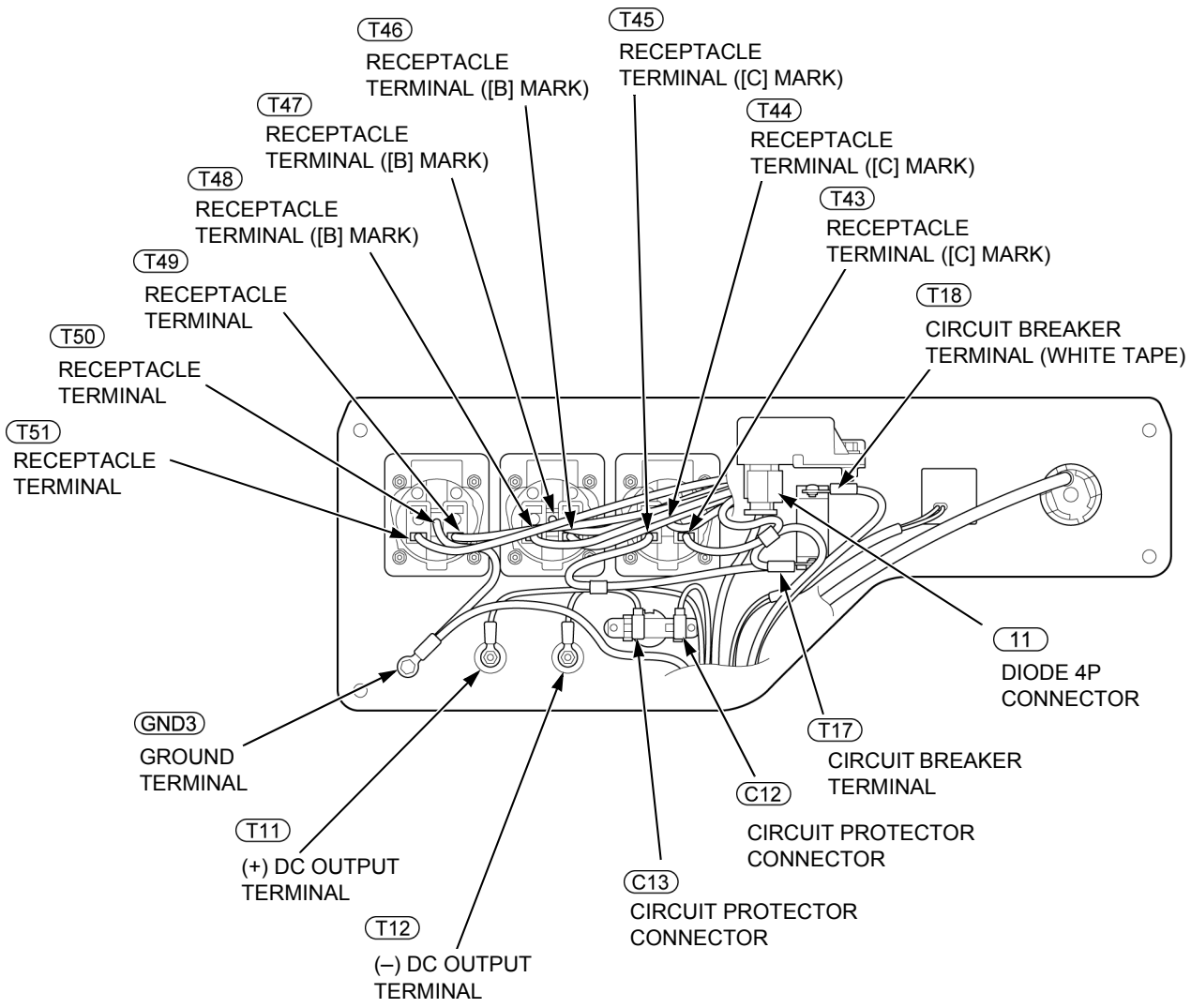
MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Br
2	Y/G
3	W

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CX-SKH TYPE)



11

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

Terminal number	Wire color
T11	W/R
T12	Bl/R
T17	Br
T18	Br
T43	W
T44	Y/G
T45	Br
T46	W
T47	Y/G
T48	Br
T49	W
T50	Y/G
T51	Br

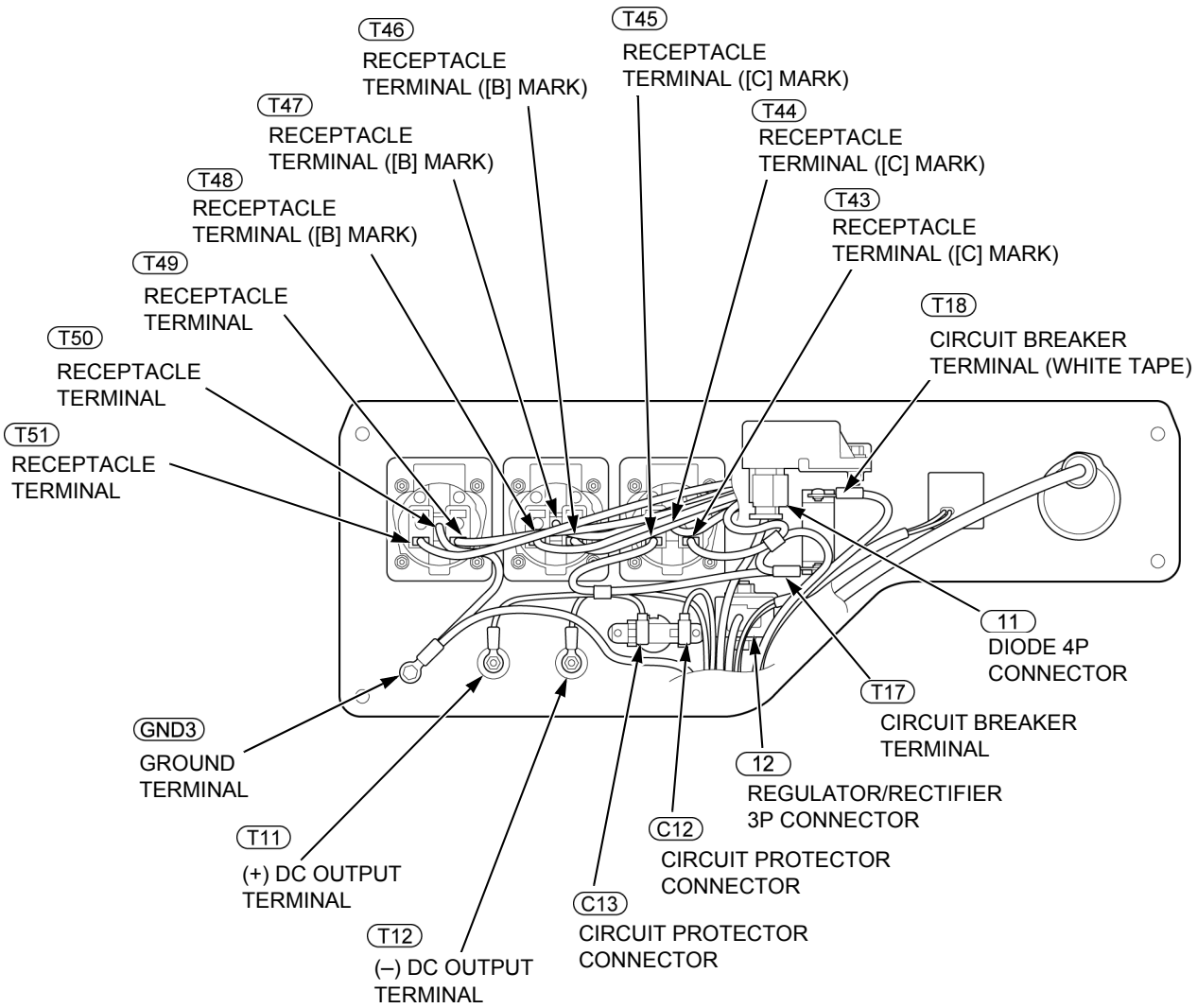
Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

SERVICE INFORMATION

CONTROL PANEL SIDE (CXS-SKH TYPE)

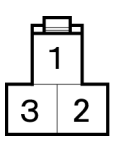


11

MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

12



MAIN WIRE
HARNESS SIDE

Terminal number	Wire color
1	Br
2	Y/G
3	W

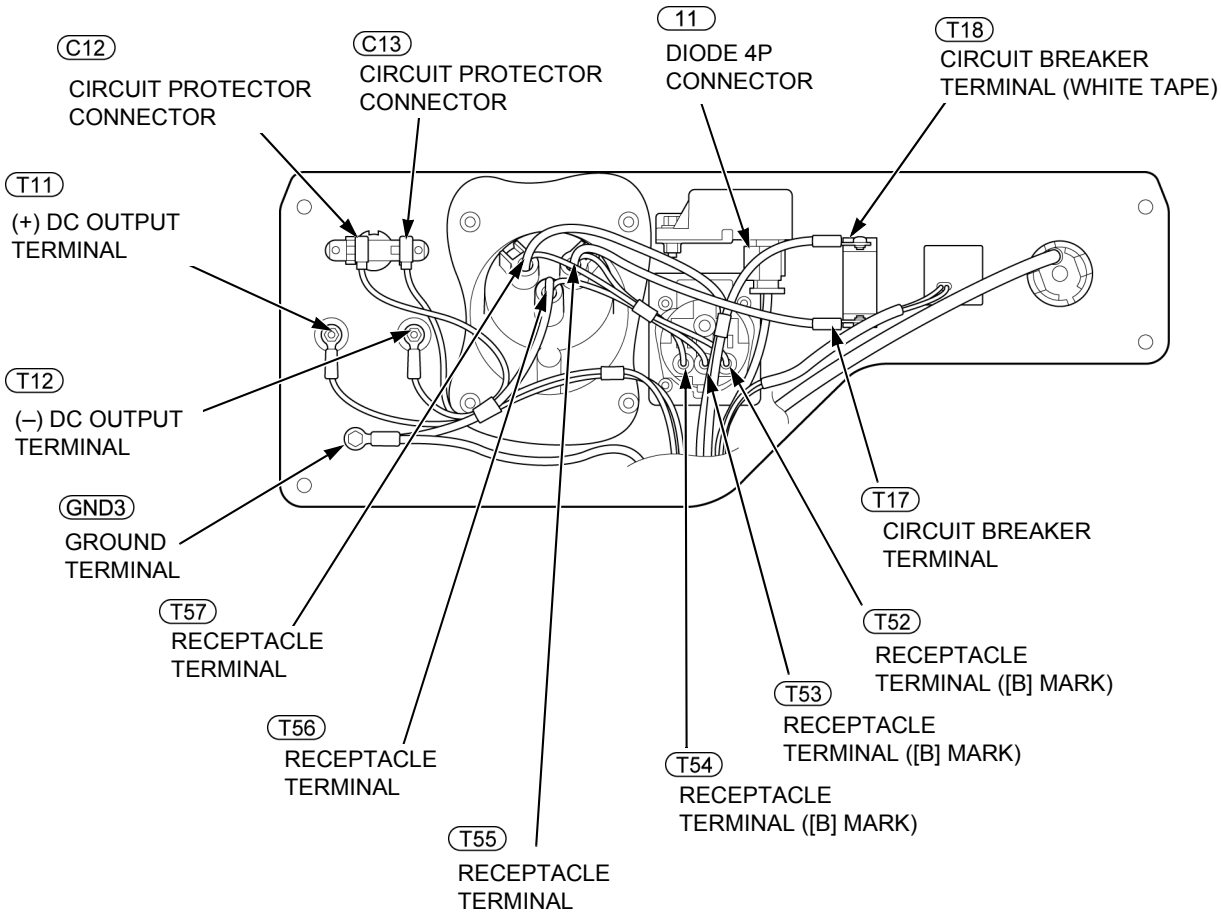
Terminal number	Wire color
T11	W/R
T12	Bl/R
T17	Br
T18	Br
T43	W
T44	Y/G
T45	Br
T46	W
T47	Y/G
T48	Br
T49	W
T50	Y/G
T51	Br

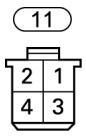
Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CX-RGH TYPE)





MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

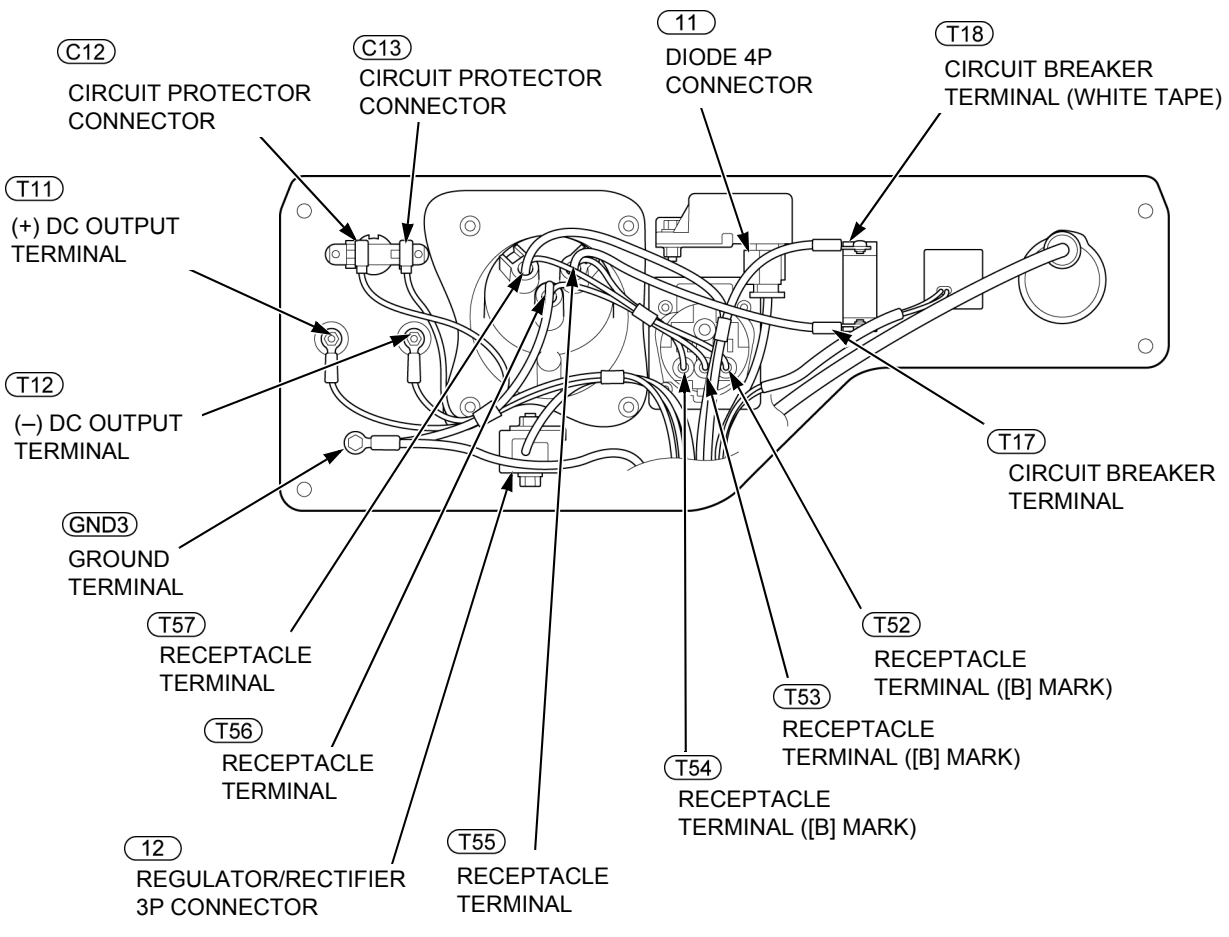
Terminal number	Wire color
T11	W/R
T12	Bl/R
T17	R
T18	R
T52	W
T53	Y/G
T54	R
T55	R
T56	Y/G
T57	W

Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CXS-RGH TYPE)

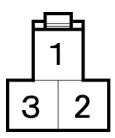


11

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

12



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Y/G
3	W

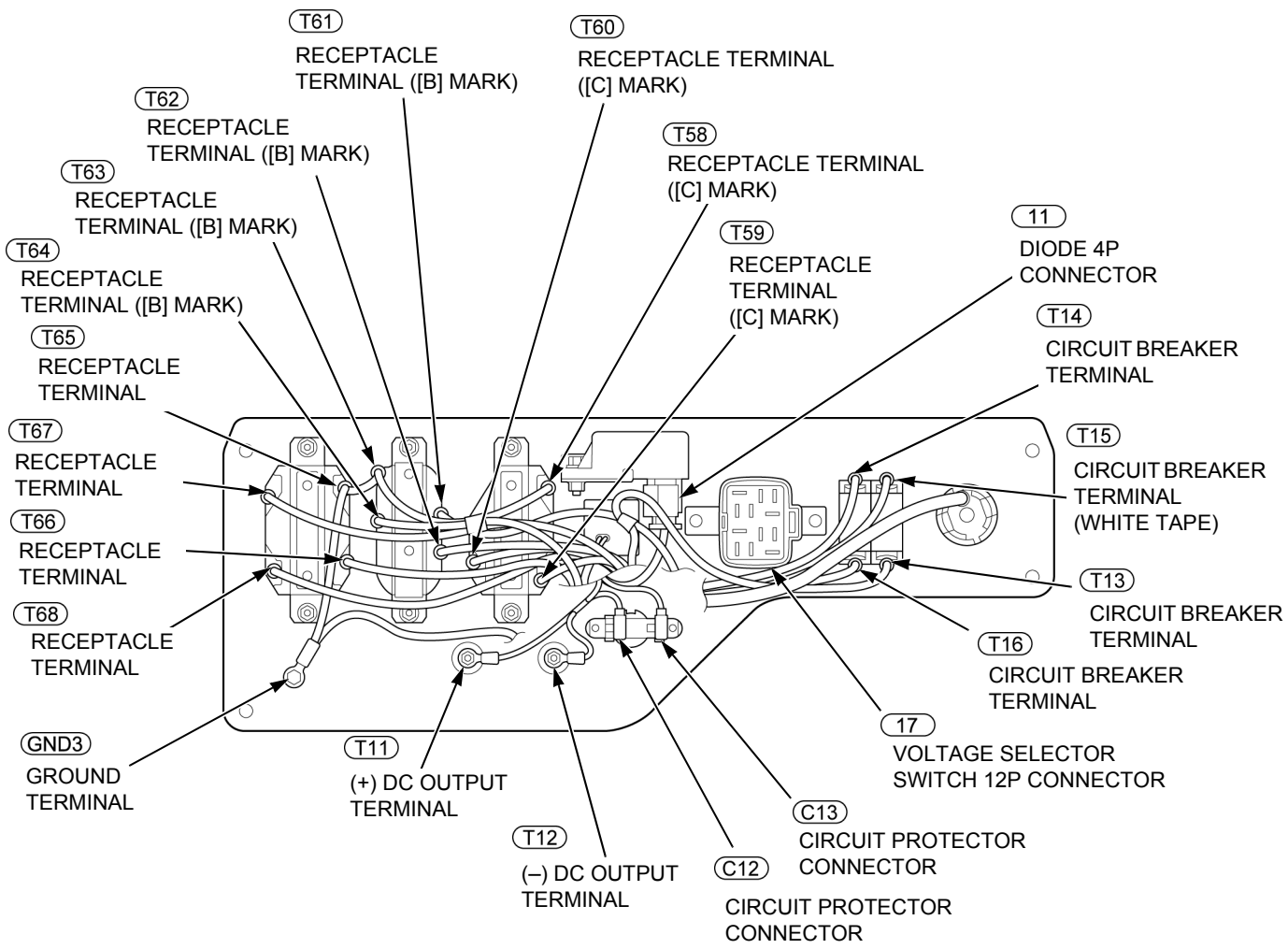
Terminal number	Wire color
T11	W/R
T12	Bl/R
T17	R
T18	R
T52	W
T53	Y/G
T54	R
T55	R
T56	Y/G
T57	W

Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CX-LDH, LTH TYPE)



11

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

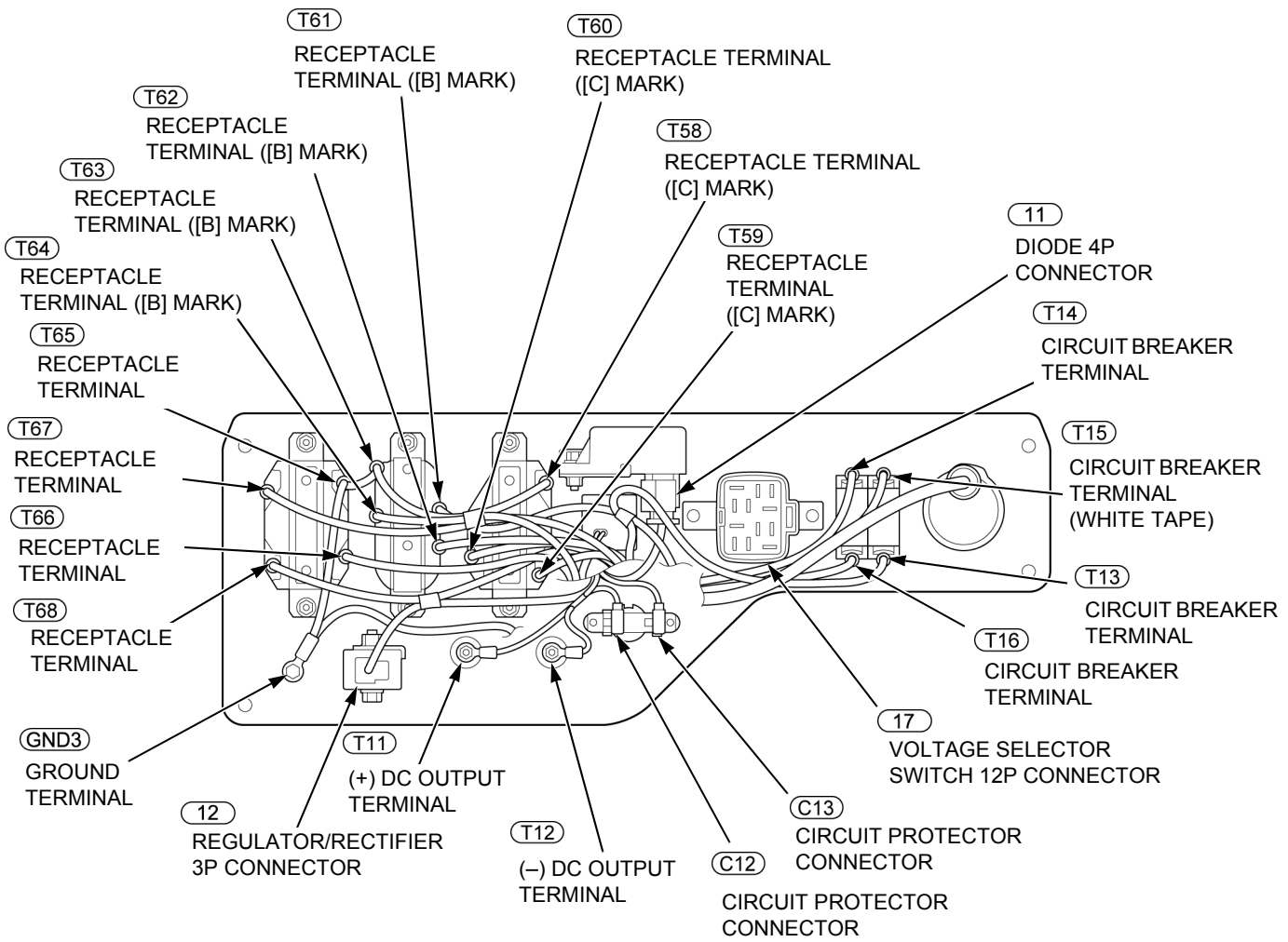
Terminal number	Wire color
T11	W/R
T12	Bl/R
T13	R
T14	Br
T15	R
T16	Bu
T58	Y/G
T59	Bu
T60	W
T61	R
T62	Bu
T63	Y/G
T64	W
T65	Y/G
T66	Bu
T67	R
T68	W

Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

CONTROL PANEL SIDE (CXS-LDH, LTH TYPE)

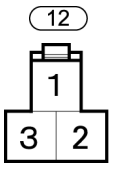


11

MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Bl/W
2	Br
3	Bu
4	Y/G

12



MAIN WIRE HARNESS SIDE

Terminal number	Wire color
1	Br
2	Y/G
3	W

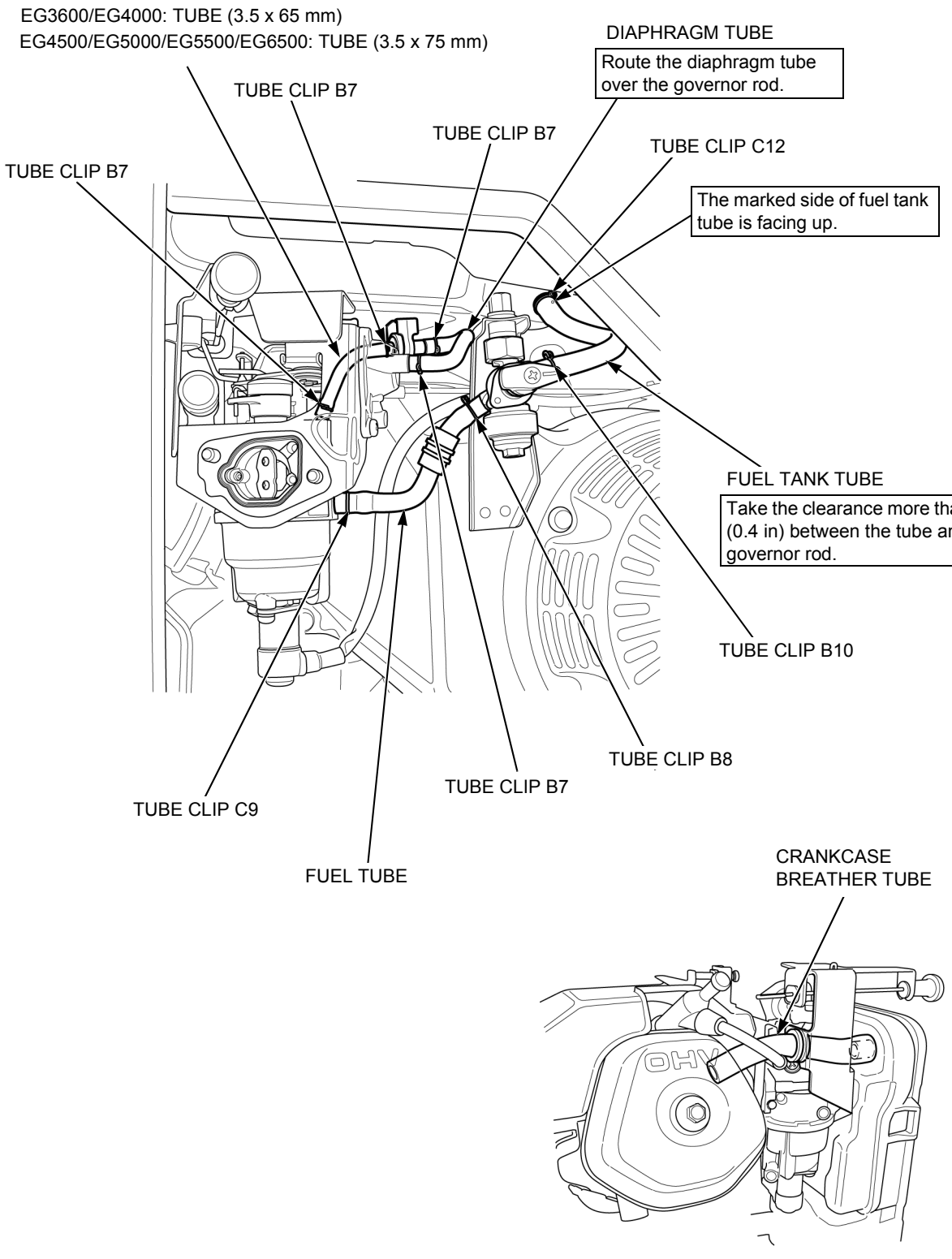
Terminal number	Wire color
T11	W/R
T12	Bl/R
T13	R
T14	Br
T15	R
T16	Bu
T58	Y/G
T59	Bu
T60	W
T61	R
T62	Bu
T63	Y/G
T64	W
T65	Y/G
T66	Bu
T67	R
T68	W

Terminal number	Wire color
C12	W/R
C13	W/R

Terminal number	Wire color
GND3	Y/G

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

TUBE ROUTING



MEMO

3. MAINTENANCE

MAINTENANCE SCHEDULE

ITEM	REGULAR SERVICE PERIOD (2) Perform at every indicated month or operating hour interval, whichever comes first.	Each use	First month or 20 hrs.	Every 3 months or 50 hrs.	Every 6 months or 100 hrs.	Every year or 300 hrs.	Refer to page
Engine oil	Check level	○					3-3
	Change		○		○		3-4
Air cleaner	Check	○					3-4
	Clean			○ (1)			
Sediment cup	Clean				○		3-5
Spark plug	Check–adjust				○		3-5
	Replace					○	
Spark arrester (UH type only)	Clean				○		3-6
Valve clearance	Check–adjust					○	3-7
Combustion chamber	Clean	After every 500 hrs.					3-8
Fuel tank & filter	Clean					○	3-8
Fuel tube	Check	Every 2 years (Replace if necessary)					3-9
Battery fluid (CXS type only)	Check	○					3-10

(1) Service more frequently when used in dusty areas.
(2) For commercial use, log hours of operation to determine proper maintenance intervals.

ENGINE OIL LEVEL CHECK

Place the engine on a level surface.

Remove the oil filler cap (1), and wipe the oil level gauge (2) clean.

Insert the oil filler cap without screwing it into the oil filler neck (3).

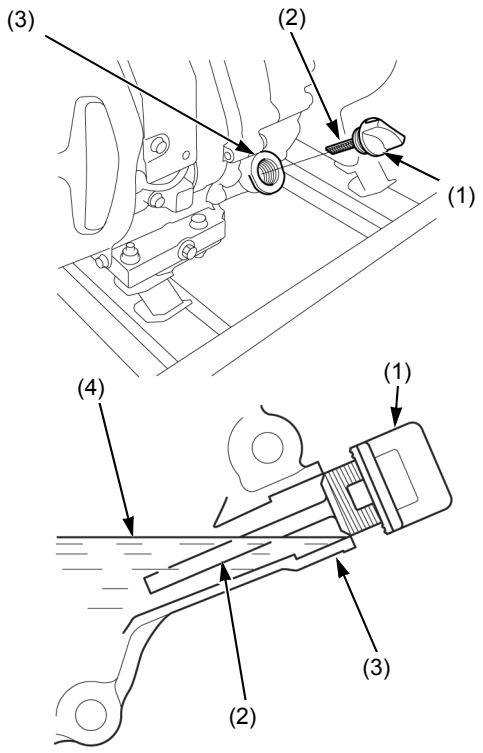
Remove the oil filler cap and check oil level shown on the oil level gauge.

If the oil level is low, fill with recommended oil to the upper level (4) of the oil filler neck.

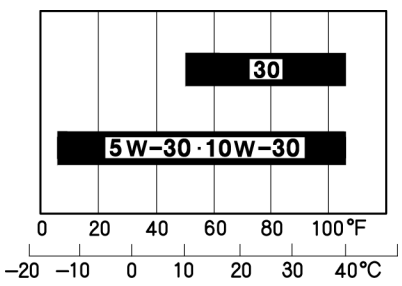
SAE 10W - 30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the recommended range.

RECOMMENDED OIL:
SAE 10W-30 API service classification SE or later

Tighten the oil filler cap securely.



SAE VISCOSITY GRADES



AMBIENT TEMPERATURE

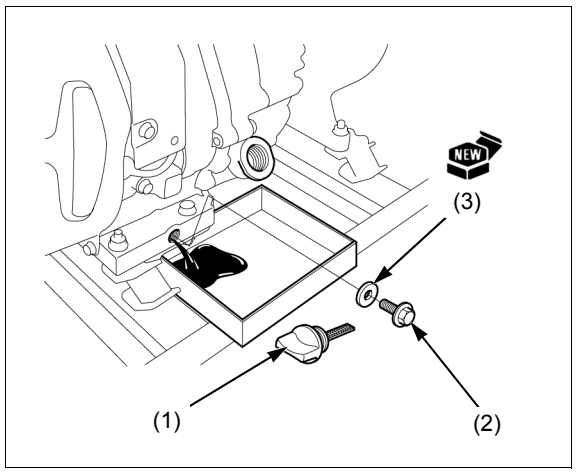
ENGINE OIL CHANGE

Drain the oil in the engine while the engine is warm. Warm oil drains quickly and completely.

Place the engine on a level surface, and place a suitable container under the drain plug bolt.

Remove the oil filler cap (1), drain plug bolt (2), and drain plug washer (3) to drain the oil into the suitable container.

Please dispose of used motor oil in a manner that is compatible with the environment. We suggest you take used oil in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash, pour it on the ground, or pour it down a drain.



⚠CAUTION

Used engine oil contains substances that have been identified as carcinogenic. If repeatedly left in contact with the skin for prolonged periods, it may cause skin cancer. Wash your hands thoroughly with soap and water as soon as possible after contact with used engine oil.

Install a new drain plug washer (3) and tighten the drain plug bolt (2) to the specified torque.

TORQUE: 22.5 N·m (2.3 kgf·m, 17 lbf·ft)

Fill with recommended oil to the upper level mark of the oil level dipstick (page 3-3).

ENGINE OIL CAPACITY:
1.1 ℓ (1.2 US qt, 1.0 Imp qt)

Tighten the oil filler cap securely.

AIR CLEANER CHECK/CLEANING

A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If the engine is operated in dusty areas, clean the air cleaner more often than specified in the MAINTENANCE SCHEDULE.

NOTICE

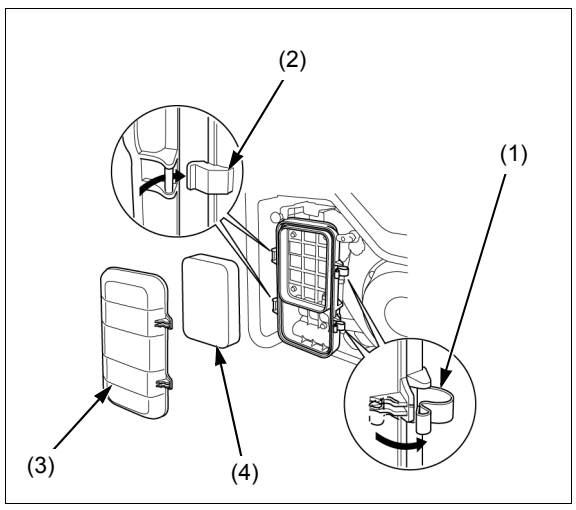
Operating the engine without the air filters or with the filter installed loosely will allow dirt to enter the engine, causing rapid engine wear. Install the air filters securely.

Remove the air cleaner case lid spring (1) and unhook the tabs (2).

Remove the air cleaner cover (3).

Remove the air cleaner element (4).

Carefully check air cleaner element and replace if damaged.



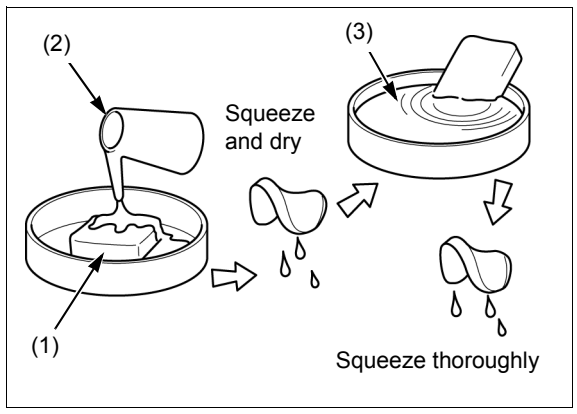
Clean the filter (1) in warm soapy water (2), rinse, and allow to dry thoroughly, or clean with a non-flammable solvent and allow to dry thoroughly.

Dip the filter in clean engine oil (3), and squeeze out all the excess oil.

Excess oil will restrict air flow through the foam element and may cause the engine to smoke at startup.

Check the air cleaner cover seal for deterioration or damage. Make sure the air cleaner cover seal is installed securely.

Install the cleaner in the reverse order of removal.



SEDIMENT CUP CLEANING

⚠WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.
- Keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

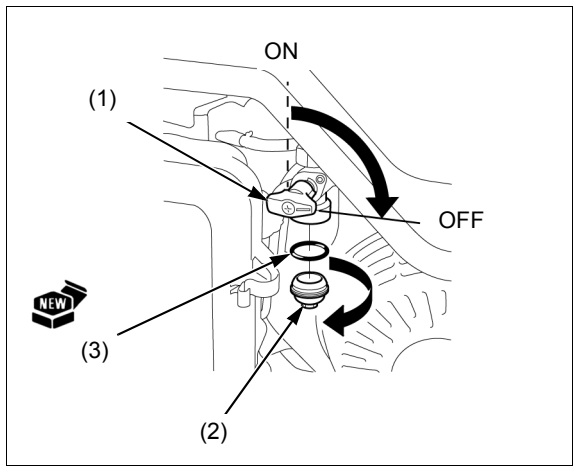
Turn the fuel valve lever (1) to the OFF position.

Remove the sediment cup (2) and the O-ring (3).

Clean the sediment cup with non-flammable solvent and allow them to dry thoroughly.

Install a new O-ring and tighten the sediment cup.

Check the installation part of the sediment cup for any sign of fuel leakage.

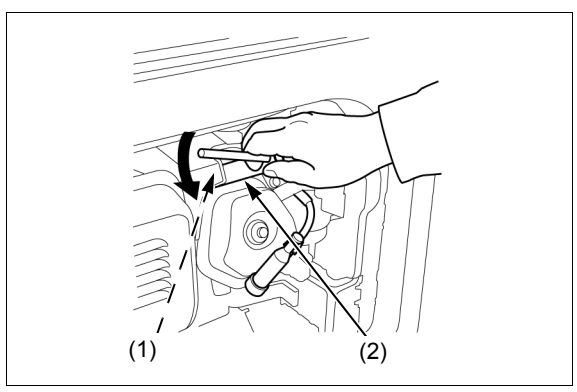


SPARK PLUG CHECK/ADJUSTMENT

⚠CAUTION

If the engine has been running, the engine will be very hot. Allow it to cool before proceeding.

Remove the spark plug cap, and then remove the spark plug (1) using a spark plug wrench (2).

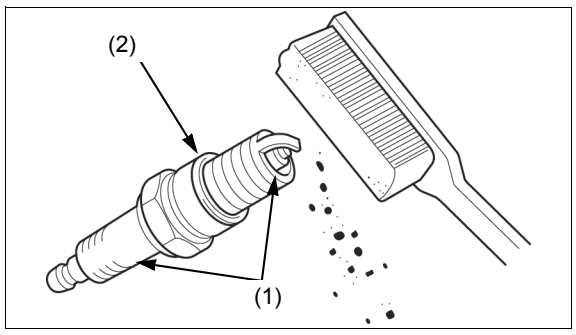


Visually check the spark plug. Replace the plug if the insulator (1) is cracked or chipped.

Check the sealing washer (2) for damage.

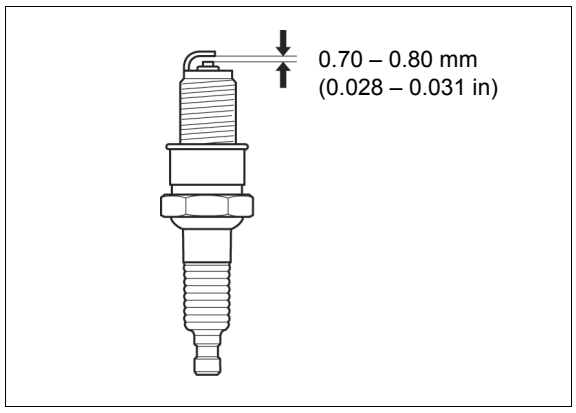
Replace the spark plug if the sealing washer is damaged.

SPARK PLUG: BPR5ES (NGK)



Measure the plug gap with a wire-type feeler gauge. If the measurement is out of the specification, adjust by bending the side electrode.

PLUG GAP: 0.70 – 0.80 mm (0.028 – 0.031 in)



Install the spark plug finger-tight to seat the washer, and then tighten it to the specified torque.

TORQUE: 18 N·m (1.8 kgf·m, 13 lbf·ft)

NOTICE

A loose spark plug can become very hot and can damage the engine. Overtightening can damage the threads in the cylinder block.

Install the spark plug cap securely.

SPARK ARRESTER CLEANING (UH TYPE ONLY)

CLEANING

NOTICE

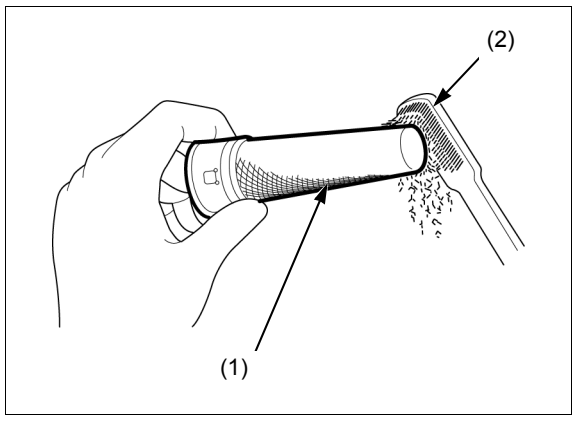
Be careful to avoid damaging the screen.

Remove the spark arrester (page 11-2).

Clean the carbon deposits from the spark arrester screen (1) with a wire brush (2).

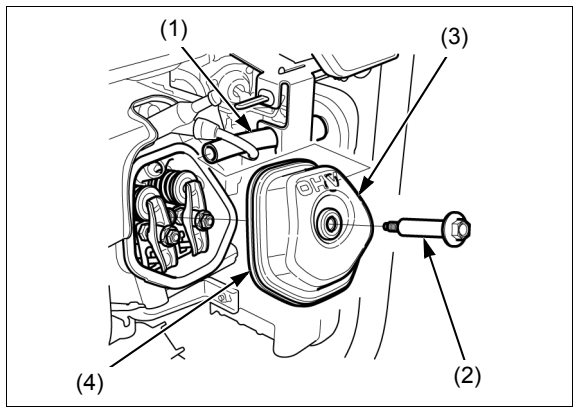
Check the spark arrester screen for damage. If the screen is damaged, replace the spark arrester.

Install the spark arrester in the reverse order of removal.



VALVE CLEARANCE CHECK/ ADJUSTMENT

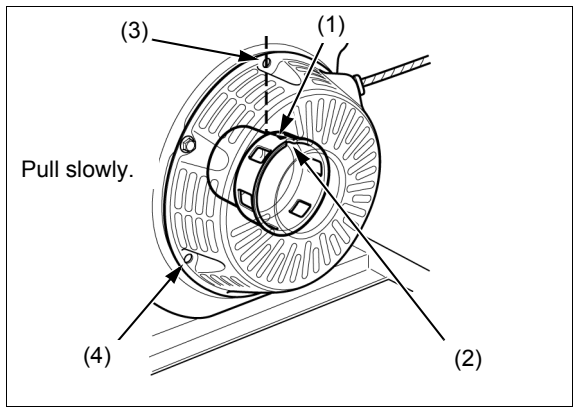
Disconnect the breather hose (1).
Remove the head cover bolt (2), the head cover (3).
Check the head cover packing (4) for damage or deterioration and replace if necessary.



Disconnect the spark plug cap from the spark plug.

Set the piston near top dead center of the cylinder compression stroke (both valves fully closed) by pulling the recoil starter slowly. When the piston is near top dead center of the compression stroke, the triangle mark (1) and cut-out (2) on the starter pulley will align with the top hole (3) on the recoil starter case (4).

If the exhaust valve is opened, use the recoil starter to turn the crankshaft one additional turn and align the triangle mark on the starter pulley with the top hole on the recoil starter case again.



Insert a thickness gauge (1) between the valve rocker arm (2) and valve stem (3) to measure the valve clearance.

VALVE CLEARANCE:
IN: 0.15 ± 0.02 mm
EX: 0.20 ± 0.02 mm

If adjustment is necessary, proceed as follows.

Hold the rocker arm pivot (4) and loosen the pivot adjusting nut (5).

Turn the rocker arm pivot to obtain the specified clearance.

VALVE CLEARANCE:
IN: 0.15 ± 0.02 mm
EX: 0.20 ± 0.02 mm

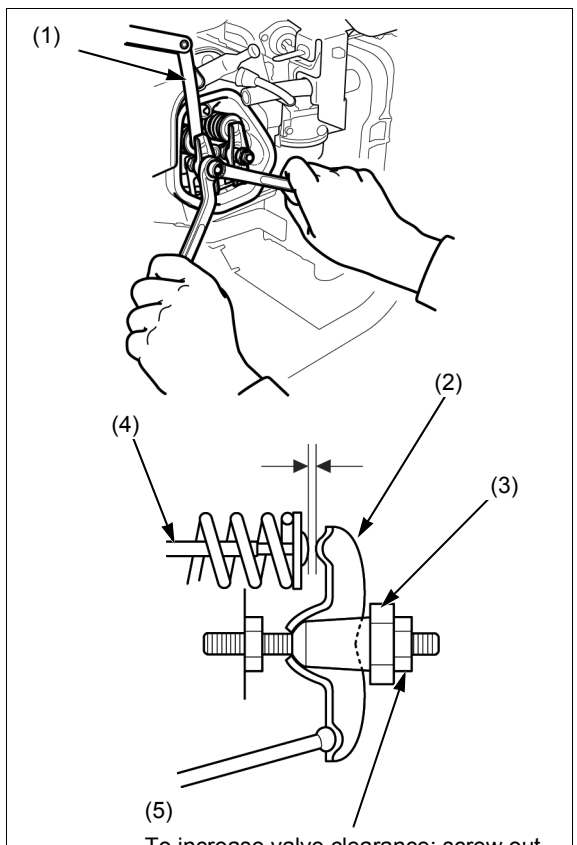
Hold the rocker arm pivot and retighten the pivot adjusting nut to the specified torque.

TORQUE: 10 N·m (1.0 kgf·m, 7 lbf·ft)

Recheck the valve clearance, and if necessary, readjust the clearance.

Attach the cylinder head cover to the cylinder head, and tighten the head cover bolt securely.

Connect the breather hose to the head cover.



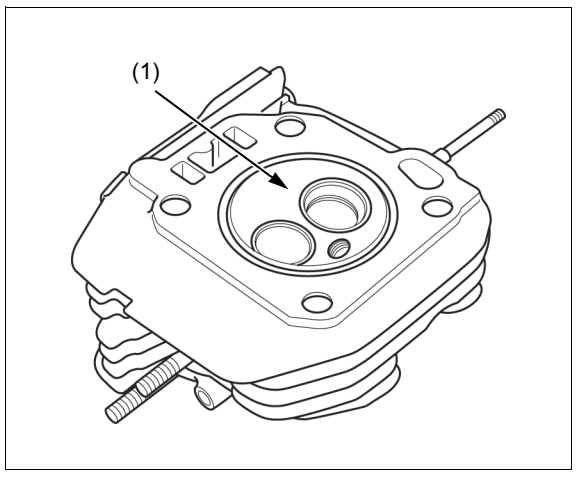
To increase valve clearance: screw out.

To decrease valve clearance: screw in.

COMBUSTION CHAMBER CLEANING

Remove the cylinder head (page 13-3).

Clean any carbon deposits from the combustion chamber (1).



FUEL TANK AND FILTER CLEANING

⚠WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.
- Keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

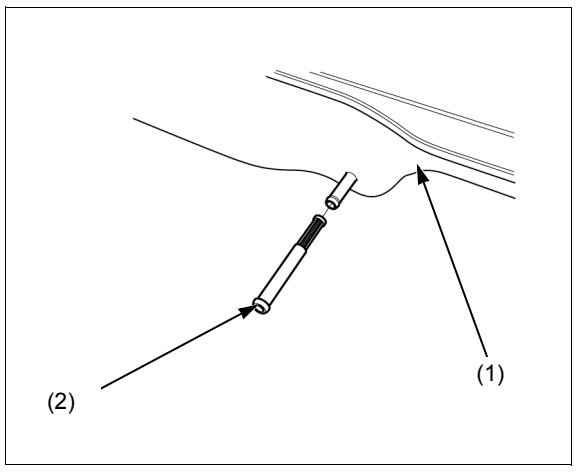
Drain the fuel into a suitable container.

Remove the fuel tank (1) and fuel tank strainer (2) (page 5-4).

Clean the fuel tank strainer and fuel tank with non-flammable solvent, and allow them to dry thoroughly.

Install the fuel tank (page 5-4).

Check the installation part of the fuel tank for any sign of fuel leakage.

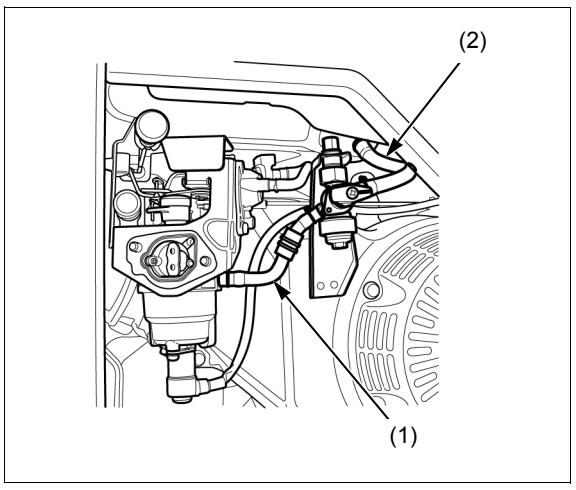


FUEL TUBE CHECK

⚠ WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.
- Keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

Check the fuel tube (1) and fuel tank tube (2) for deterioration, cracks or signs of leakage.



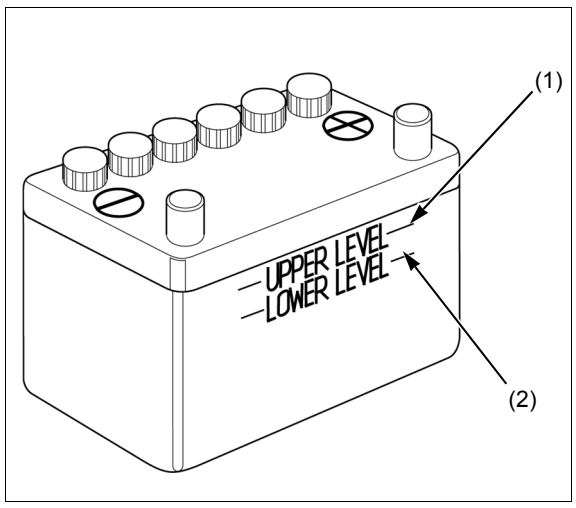
BATTERY CHECK (CXS TYPE ONLY)

⚠WARNING

A battery can explode if you do not follow the proper procedure, causing serious injury to anyone nearby.
Follow all procedures carefully and keep sparks and open flames away from the battery.
The battery contains sulfuric acid (electrical) which is highly corrosive and poisonous.
Getting electrolyte in your eyes or on your skin can cause serious burns.
Wear protective clothing and eye protection when working on or a near battery.
Swallowing electrolyte can cause fatal poisoning if immediate action is not taken.

- Battery handling differs according to the type of battery. Refer to the battery manufacturer's instructions.

Check whether the battery fluid is between the upper (1) and lower levels (2), and check the vent hole in each battery cap for clogging.
If the battery fluid is near or below the lower level, add distilled water to the upper level.



⚠WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds. When your hands after handling.

4. TROUBLESHOOTING

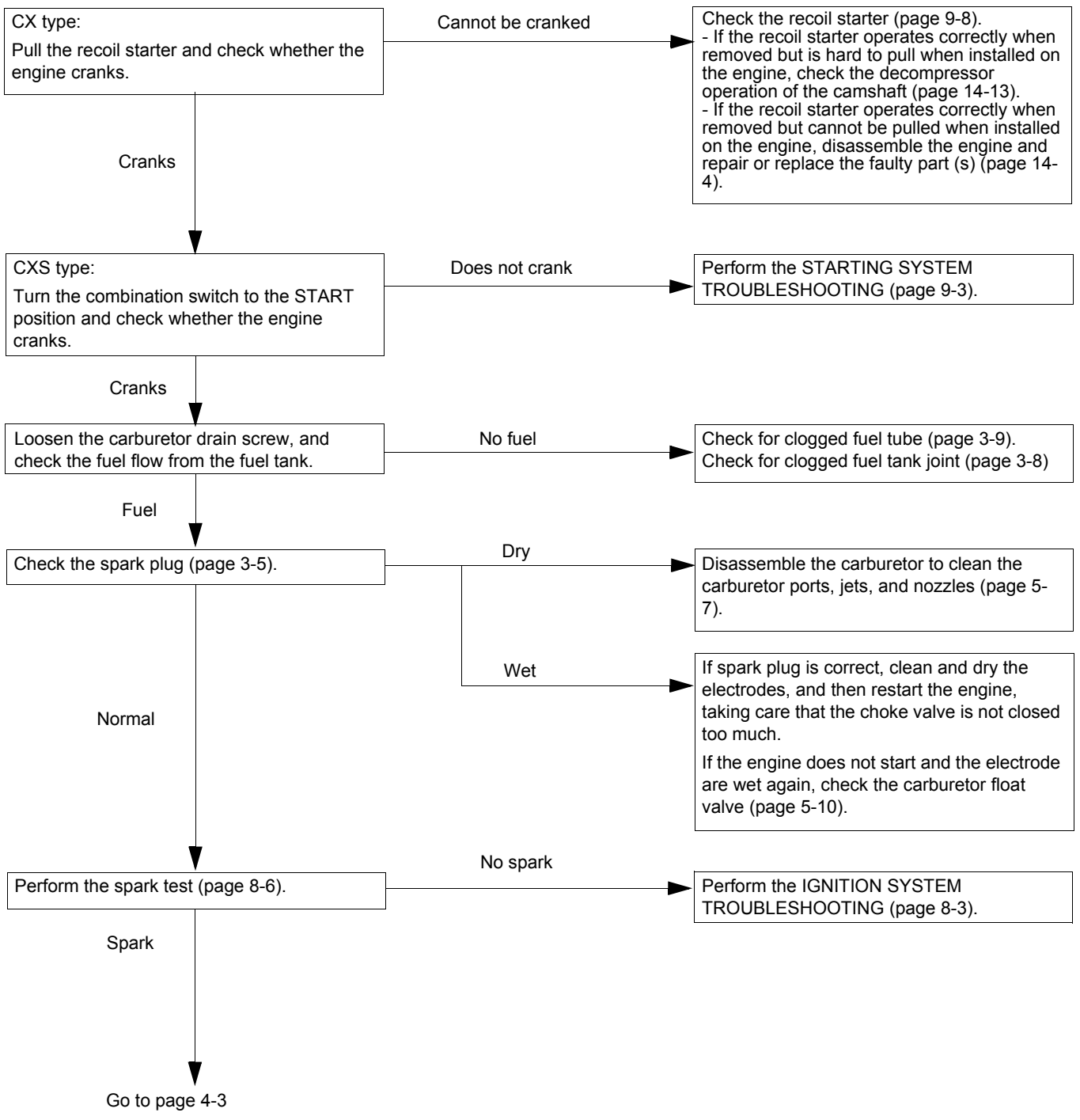
BEFORE TROUBLESHOOTING

- Use a known-good battery for troubleshooting.
- Check that the connectors are connected securely.
- Check for sufficient fresh fuel in the fuel tank.
- Read the circuit tester's operation instructions carefully, and observe the instructions during inspection.
- Disconnect the battery cable before continuity inspection.

TROUBLESHOOTING

HARD STARTING

- Check the engine oil level before troubleshooting.



From page 4-2

Perform the cylinder compression test (page 13-5).

Compression is too high

Check the valve clearance (page 3-7) and then perform the cylinder compression test. If the cylinder compression is too high, remove carbon deposits in the combustion chamber (page 3-8).

Compression is too low

Check the valve clearance (page 3-7), and then perform the cylinder compression test.

If the cylinder compression is too low, perform a leak down test.

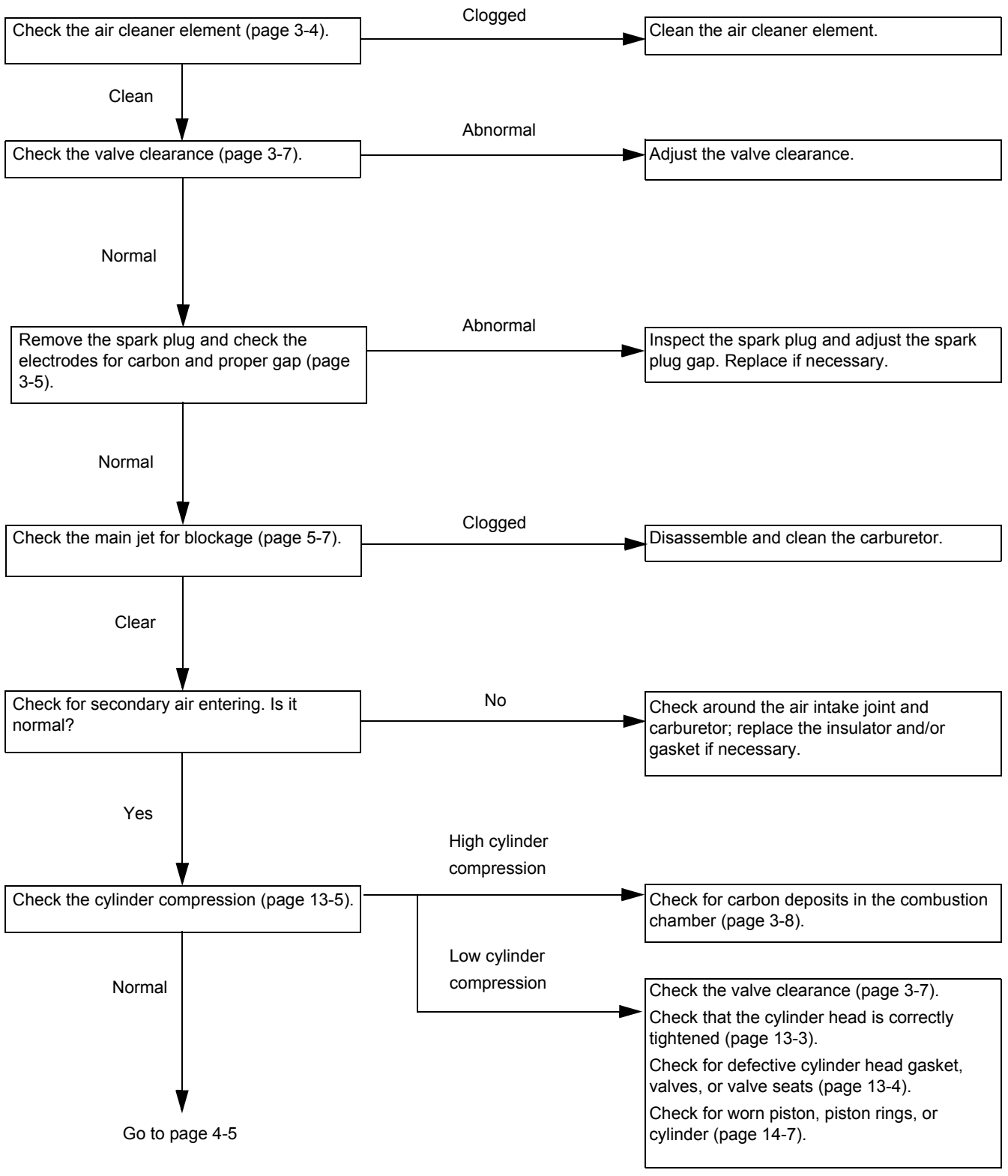
If there is no air leakage in the engine, check the following.

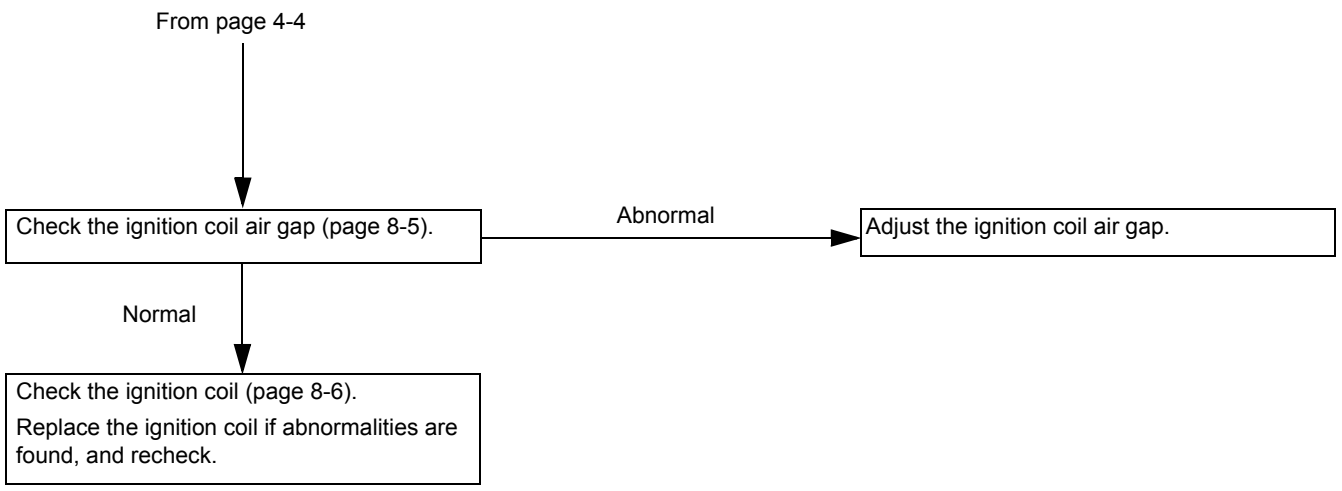
- Valve spring free length (page 13-7)
- Valve seat width (page 13-6)
- Valve face irregularly worn (page 13-7)
- Decompressor operation (page 14-13)
- Piston ring side clearance (page 14-10)
- Piston ring width (page 14-9)
- Piston ring end gap (page 14-10)
- Piston skirt O.D. (page 14-8)
- Cylinder sleeve I.D. (page 14-7)

Normal

Restart the engine according to the starting procedure.

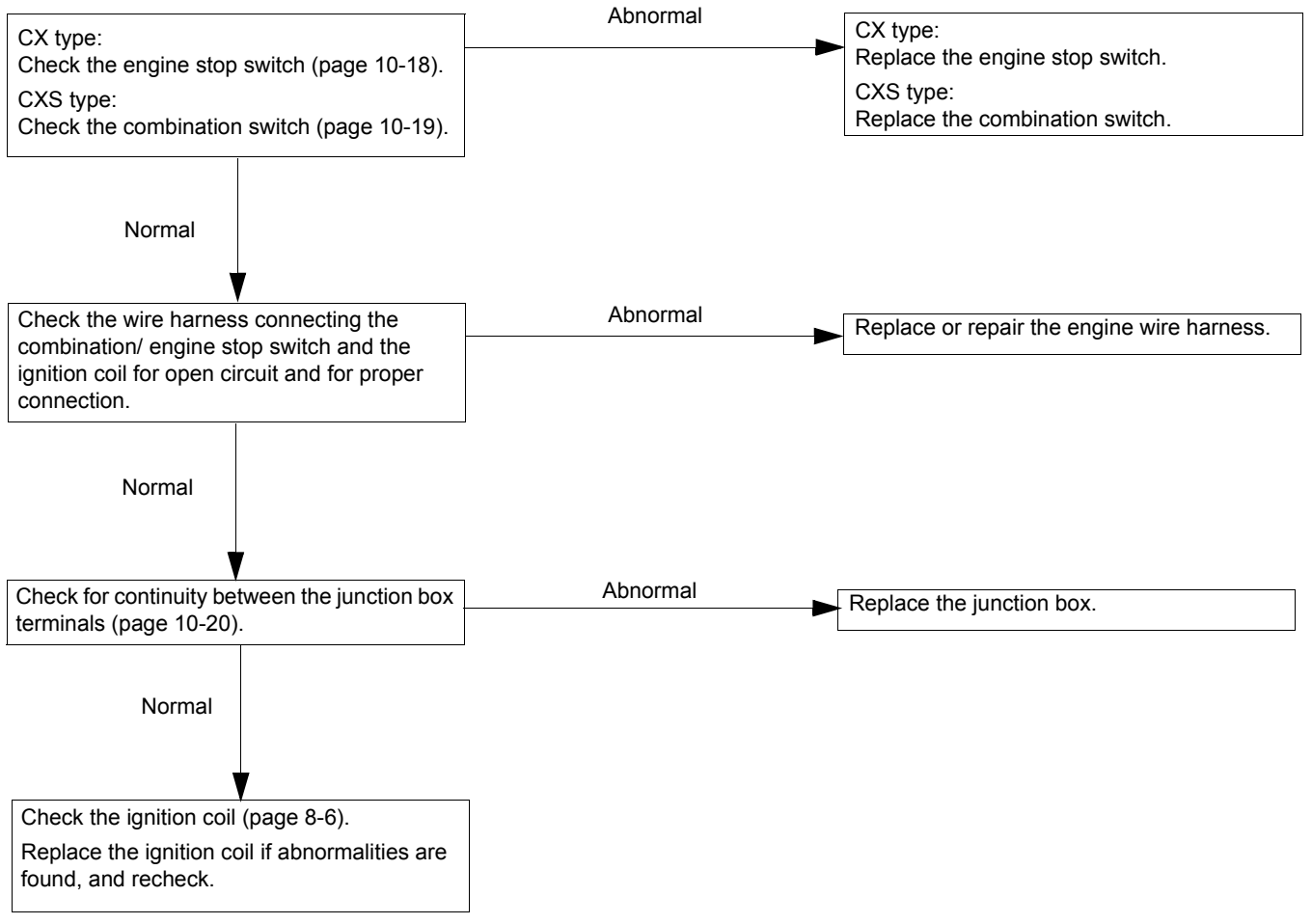
ENGINE SPEED DOES NOT STABILIZE





ENGINE DOES NOT STOP WHEN COMBINATION/ ENGINE STOP SWITCH IS TURNED OFF

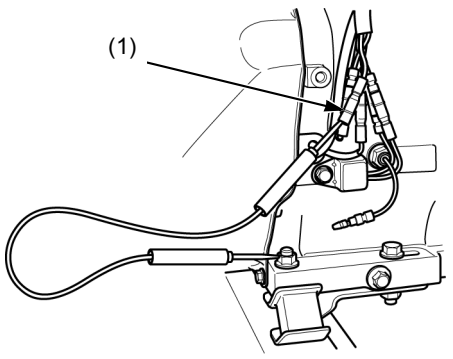
- Check the engine oil level before troubleshooting.



ENGINE DOES NOT STOP WHEN ENGINE OIL LEVEL IS LOW

Start the engine.

Disconnect the oil level switch Yellow wire connector (1) and short it of the oil level switch side and engine ground using a jumper wire.

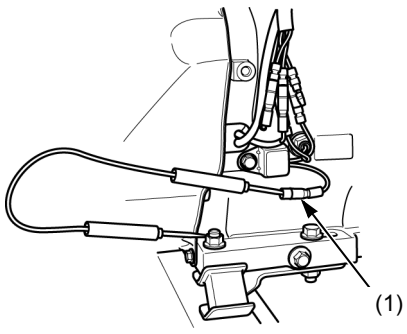


Engine stop → Replace the oil level switch (page 14-4).

Engine does not stop ↓

Start the engine.

Disconnect the oil alert unit Yellow wire connector (1) and short it of the oil alert unit side and engine ground using a jumper wire.



Engine stop →
- Repair the open in the Yellow wire between the oil level switch and junction box.
- Repair the open in the Yellow wire between the oil alert unit and junction box.
- Check for open circuit in junction box circuit (page 10-20).

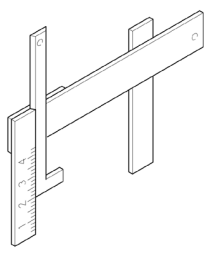
Engine does not stop ↓

- Repair the open in the Black wire between the oil alert unit and junction box.
- Check for open circuit in junction box circuit (page 10-20).

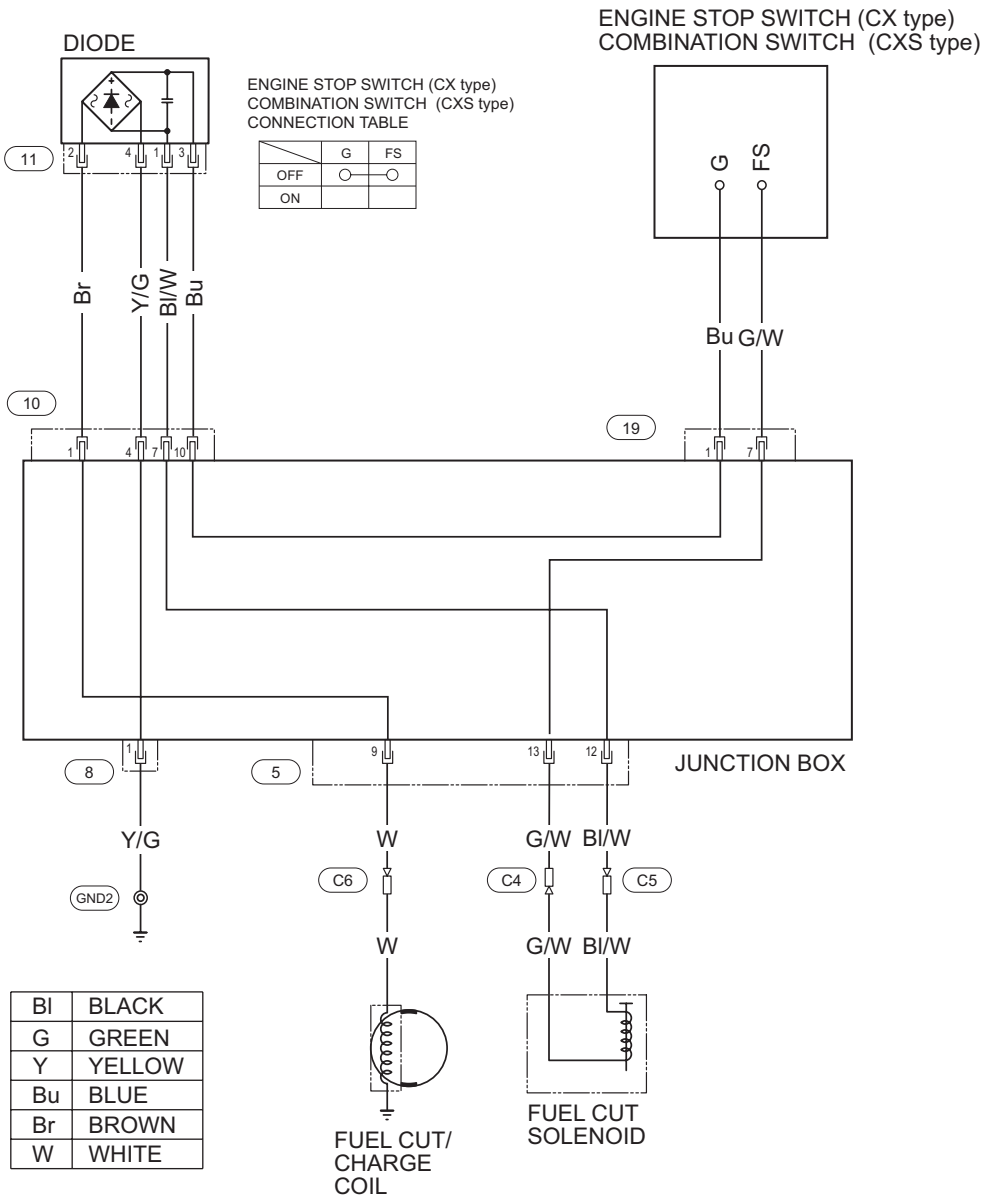
5. FUEL SYSTEM

TOOLS

Float level gauge
07401-0010000



FUEL CUT SYSTEM DIAGRAM

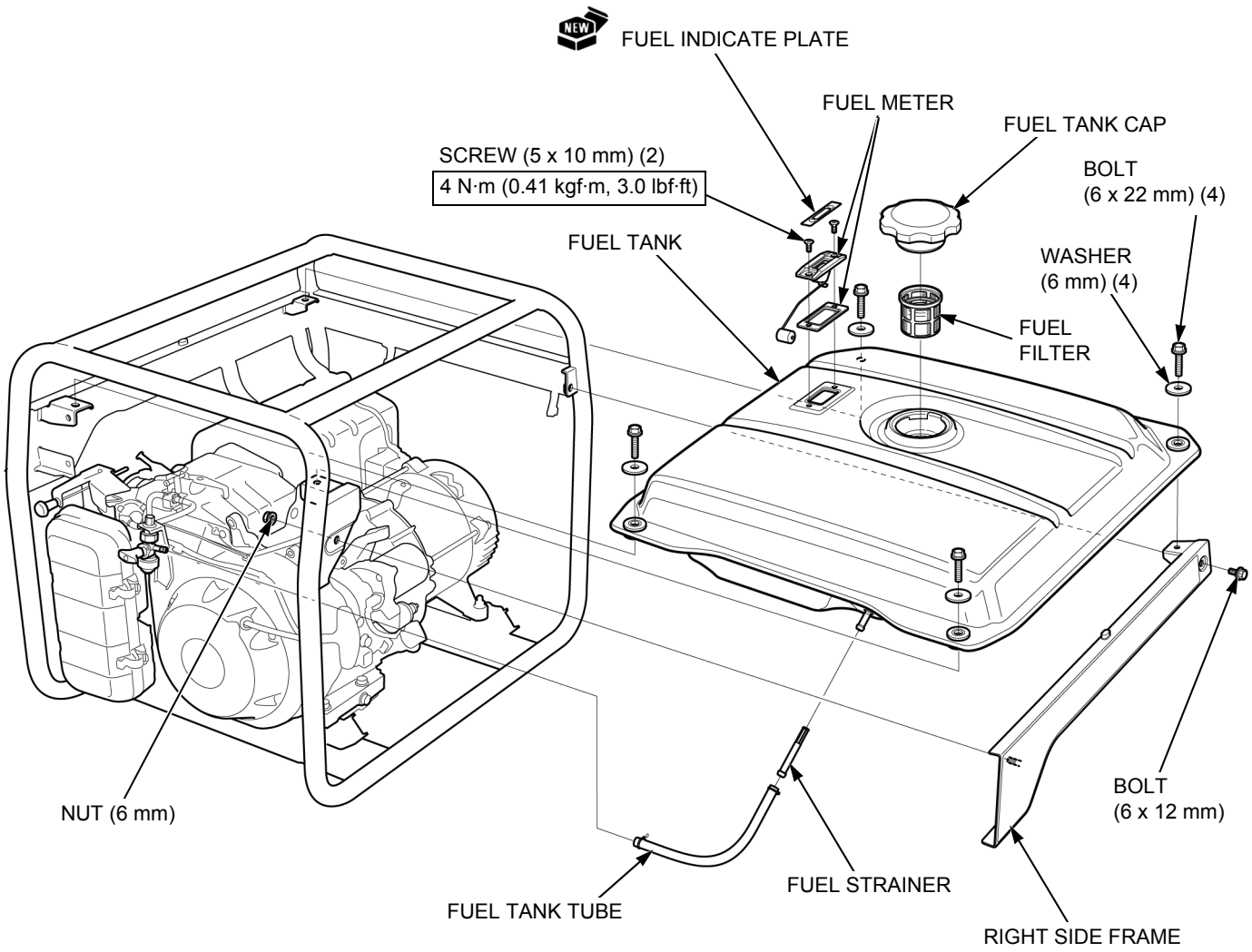


FUEL TANK REMOVAL/INSTALLATION

⚠WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.
- Keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

Remove the control panel (page 10-2).



FUEL VALVE REMOVAL/ INSTALLATION

Disconnect the fuel tank tube (1) and fuel tube (2).

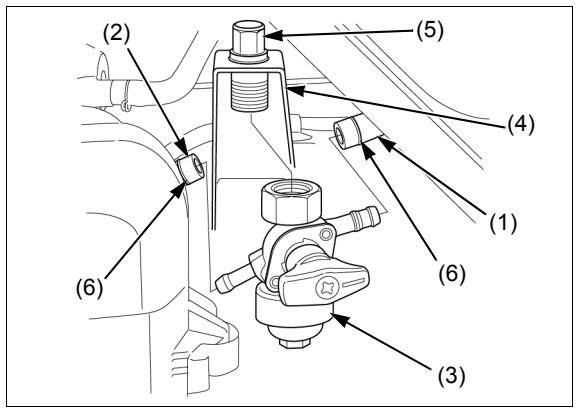
Remove the fuel valve (3) from the fuel valve stay (4).

Install and tighten the fuel valve nut while holding the nut part (5) of fuel valve stay by a tool.

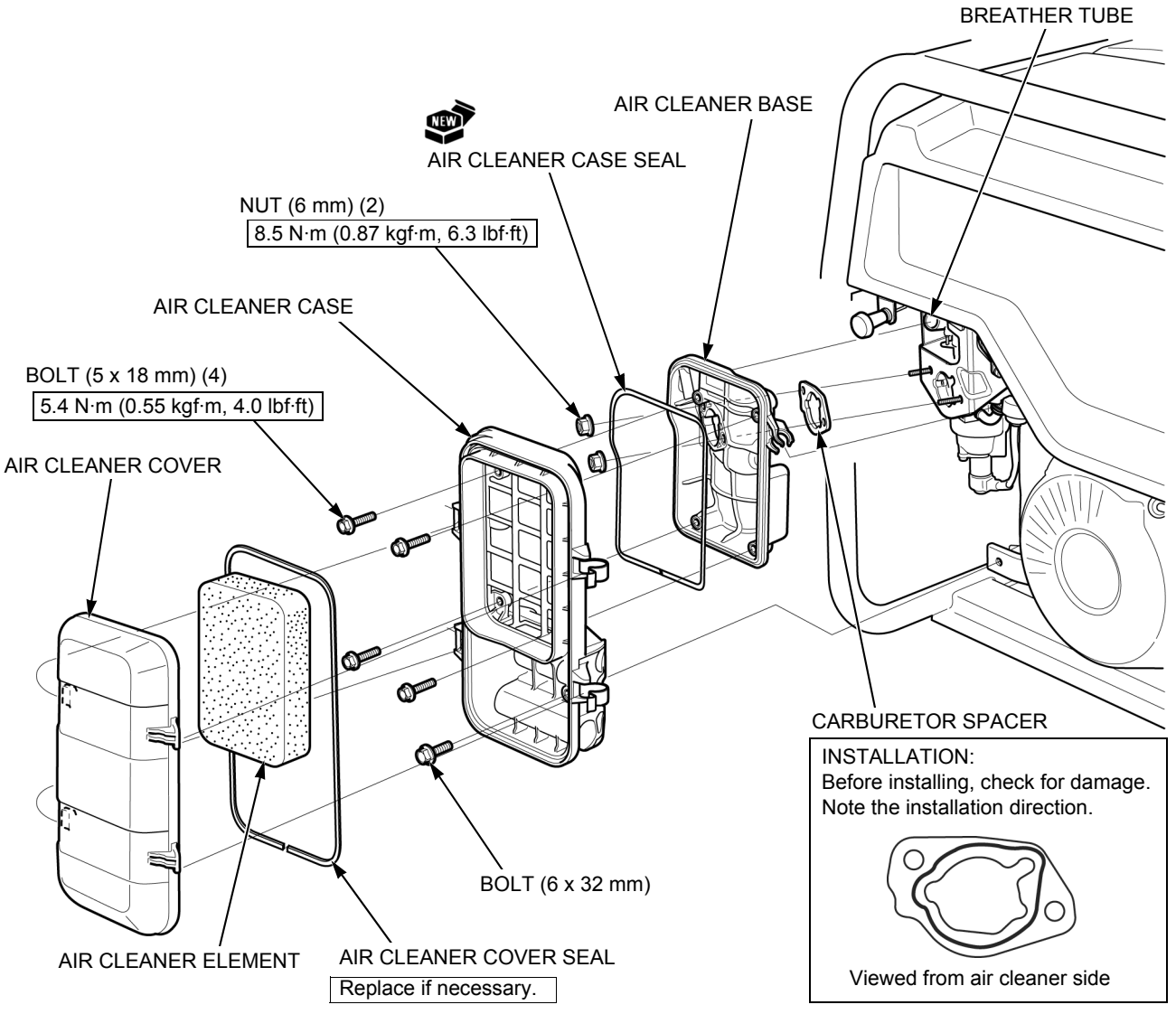
TORQUE: 13.5 N·m (1.4 kgf·m, 10 lbf·ft)

Connect the fuel tank tube and fuel tube.

- Be sure the tube clips (6) are installed correctly.



AIR CLEANER REMOVAL/ INSTALLATION



CARBURETOR REMOVAL/INSTALLATION

⚠WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.
- Keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

Remove the air cleaner base (page 5-5).

Disconnect the fuel cut solenoid wire connectors (page 2-10).

GOVERNOR ROD/THROTTLE RETURN SPRING

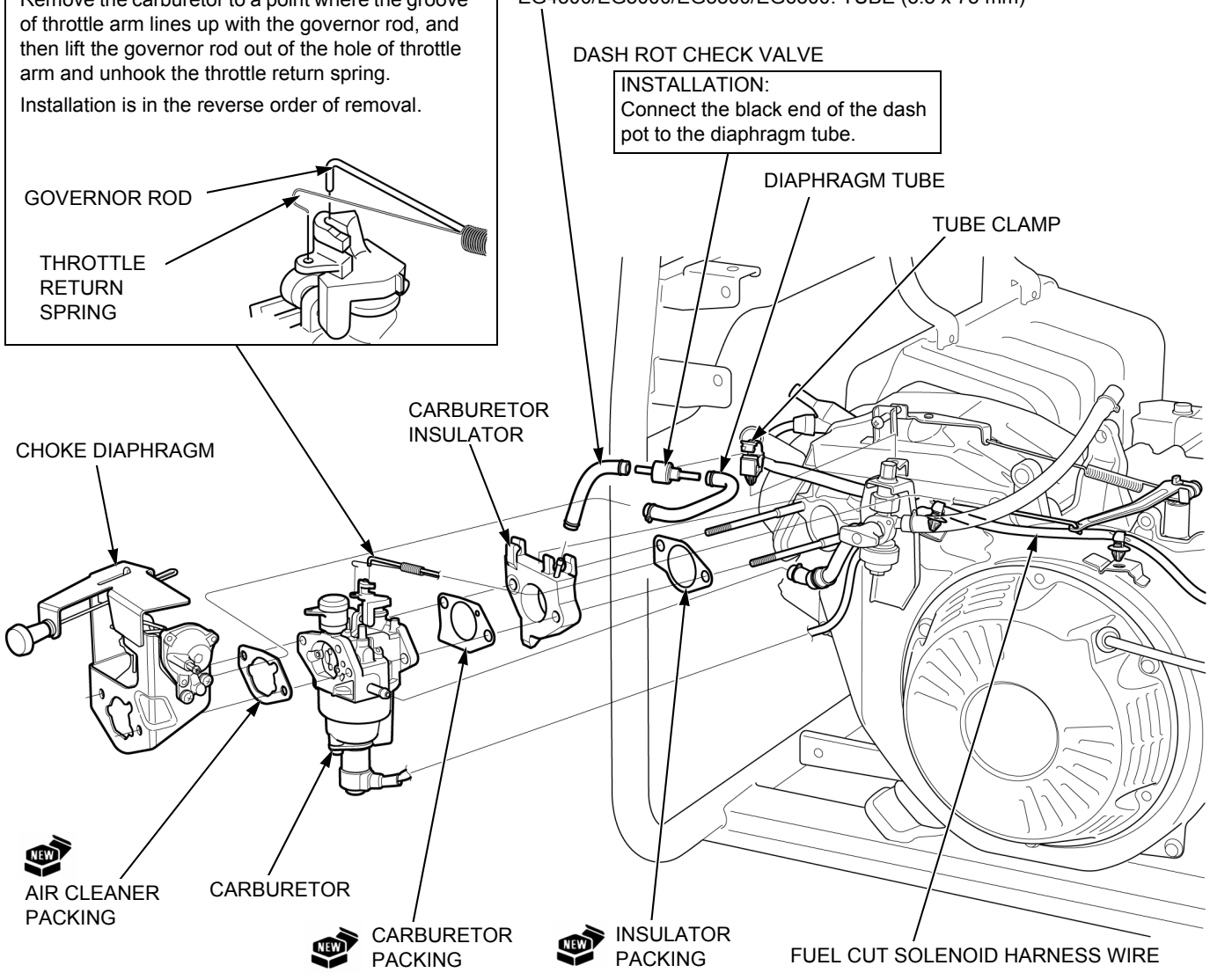
REMOVAL/INSTALLATION:
Remove the carburetor to a point where the groove of throttle arm lines up with the governor rod, and then lift the governor rod out of the hole of throttle arm and unhook the throttle return spring.

Installation is in the reverse order of removal.

EG3600/EG4000: TUBE (3.5 x 65 mm)
EG4500/EG5000/EG5500/EG6500: TUBE (3.5 x 75 mm)

DASH ROT CHECK VALVE

INSTALLATION:
Connect the black end of the dash pot to the diaphragm tube.



CARBURETOR DISASSEMBLY/ASSEMBLY

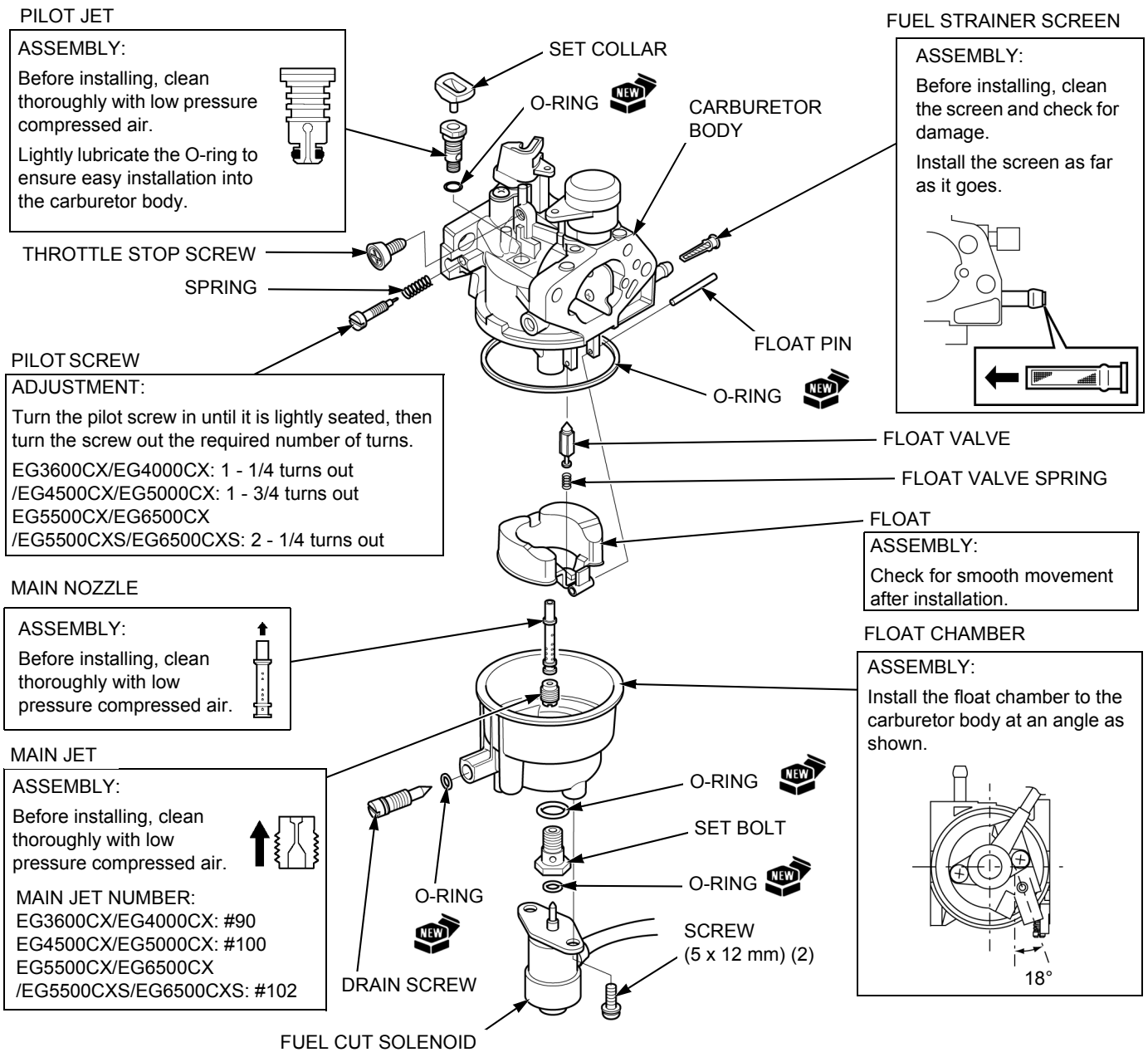
⚠ WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.
- Keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

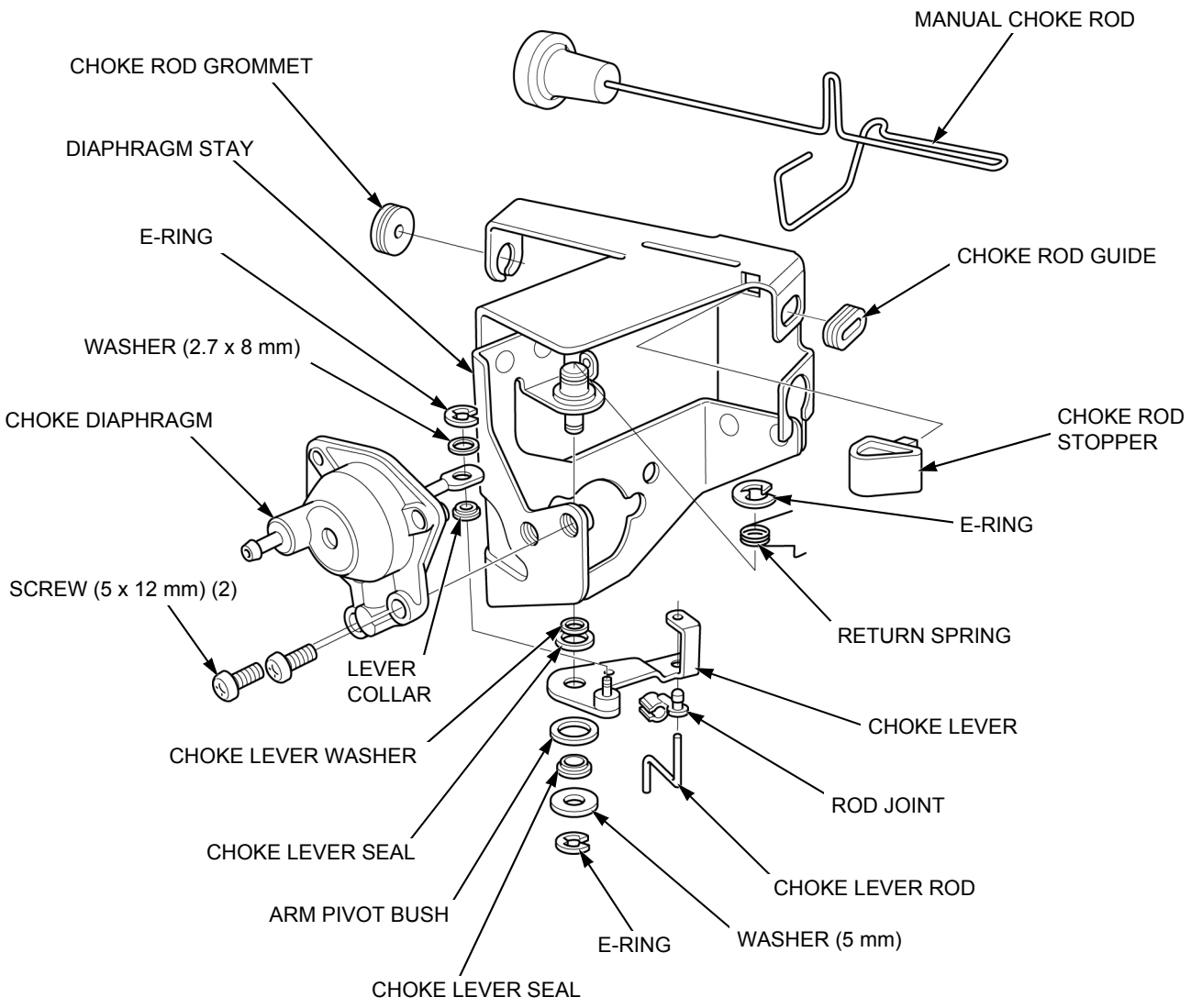
⚠ CAUTION

To prevent serious eye injury, always wear safety goggles or other eye protection when using compressed air.

Remove the carburetor (page 5-6).

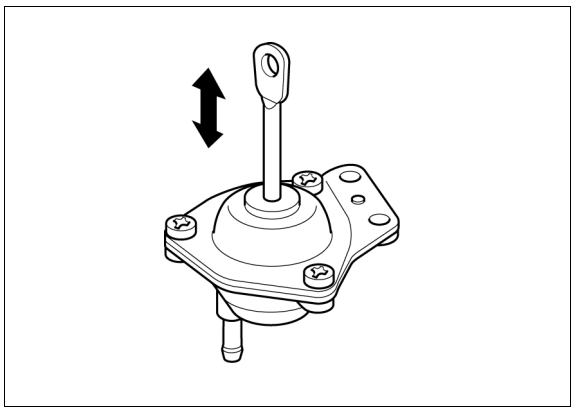


CHOKE DIAPHRAGM DISASSEMBLY/ ASSEMBLY



CHOKE DIAPHRAGM INSPECTION

Check for smooth operation by lightly pressing the rod with a finger.



CARBURETOR BODY CLEANING

⚠ CAUTION

To prevent serious eye injury, always wear safety goggles or other eye protection when using compressed air.

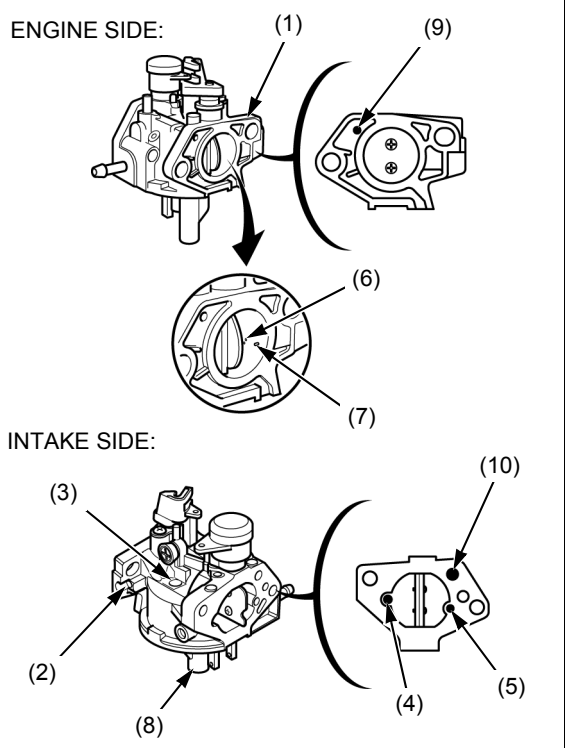
NOTICE

- *Some commercially available chemical cleaners are very caustic. These cleaners may damage plastic parts such as the O-ring, the float, and the float valve of the carburetor. Check the container for instructions. If you are in doubt, do not use these products to clean a Honda carburetor.*
- *High air pressure may damage the carburetor. Use low air pressure (0.2 MPa (30 psi) or less) when cleaning passages and ports.*

Clean the carburetor body (1) with high flash point solvent.

Clean thoroughly the following passages and ports with low pressure compressed air.

– Pilot screw hole (2)
– Pilot jet hole (3)
– Pilot air jet (4)
– Main air jet (5)
– Transition ports (6)
– Pilot outlet (7)
– Main nozzle holder (8)
– External vent port (9)
– Internal vent port (10)



CARBURETOR INSPECTION

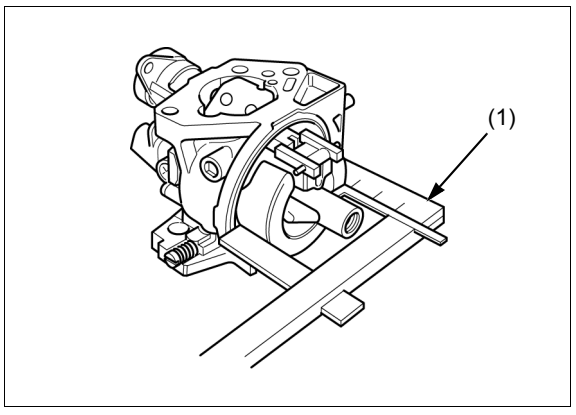
FLOAT LEVEL HEIGHT

Place the carburetor in the position as shown, and measure the distance between the float top and carburetor body when the float just contacts the float valve without compressing the valve spring.

TOOL:
Float level gauge (1) 07401-0010000

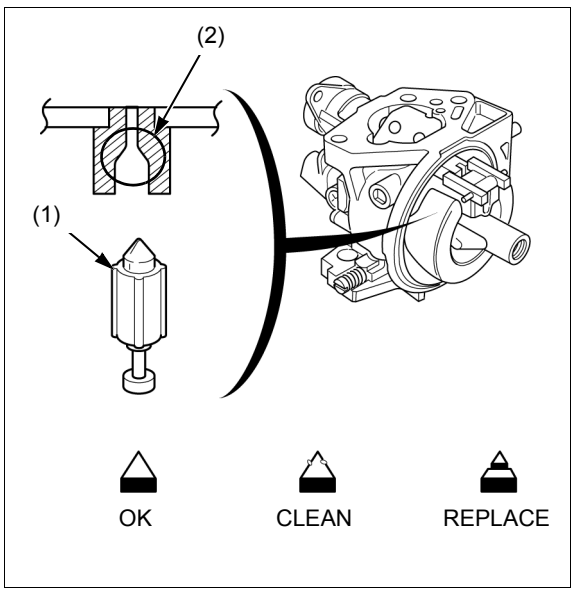
STANDARD FLOAT HEIGHT: 13.2 mm (0.52 in)

If the height is outside the specification, replace the float and the float valve and recheck the height.



FLOAT VALVE

Check for a worn float valve (1) and valve seat (2) contamination.



FUEL CUT SOLENOID

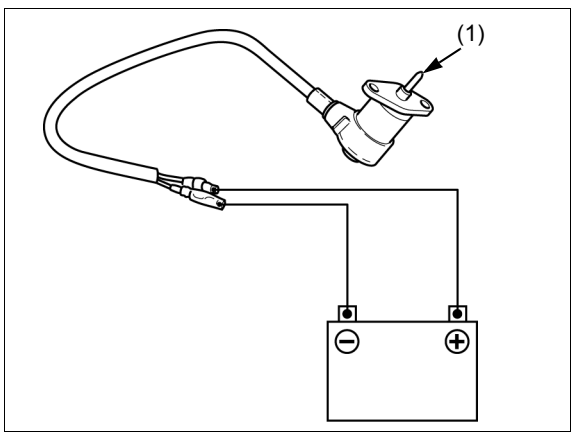
Connect the 12 V battery to the solenoid wire connectors.

The solenoid needle should extend out when the battery is disconnected.

NOTICE

To avoid solenoid damage, do not leave the battery connected for more than 5 seconds.

Replace the solenoid if necessary.



DIODE INSPECTION

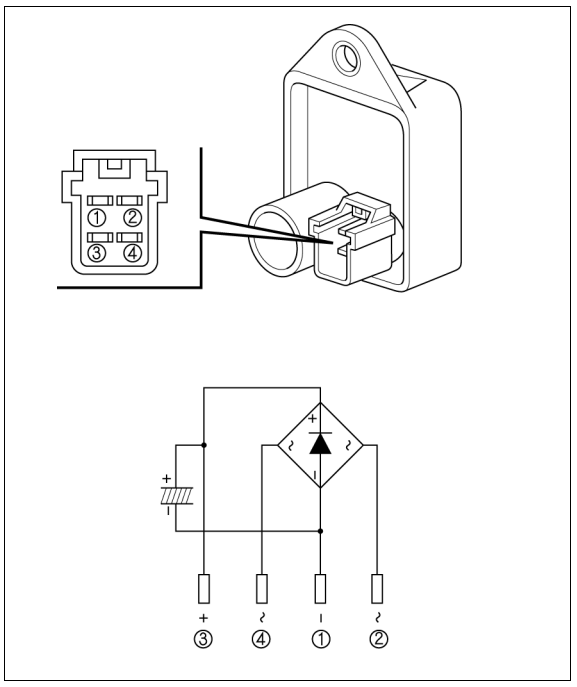
Remove the diode (page 10-3).

Check for continuity between the terminals according to the table below.

CONTINUITY:

		(+) probe			
		1	2	3	4
(–) probe	1	–	YES	YES	YES
	2	NO	–	YES	NO
	3	NO	NO	–	NO
	4	NO	NO	YES	–

- Some meters show current flow from negative (–) to positive (+), others show flow from positive (+) to negative (–). The polarity of the meter does not matter when testing diodes. As long as the meter shows current flowing one way and not the other the diode is good.



6. GOVERNOR SYSTEM

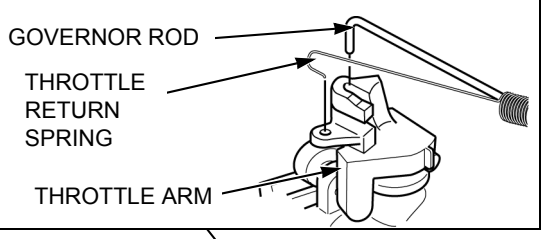
GOVERNOR ARM REMOVAL/INSTALLATION

Remove the fuel tank (page 5-4).

GOVERNOR ROD/THROTTLE RETURN SPRING

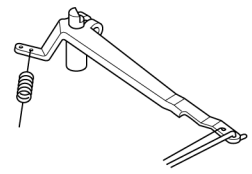
REMOVAL/INSTALLATION:
Turn the throttle arm to a point where the groove of throttle arm lines up with the governor rod, and then lift the governor rod out of the hole of throttle arm and unhook the throttle return spring.

Installation is in the reverse order of removal.

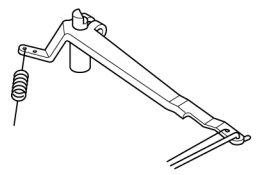


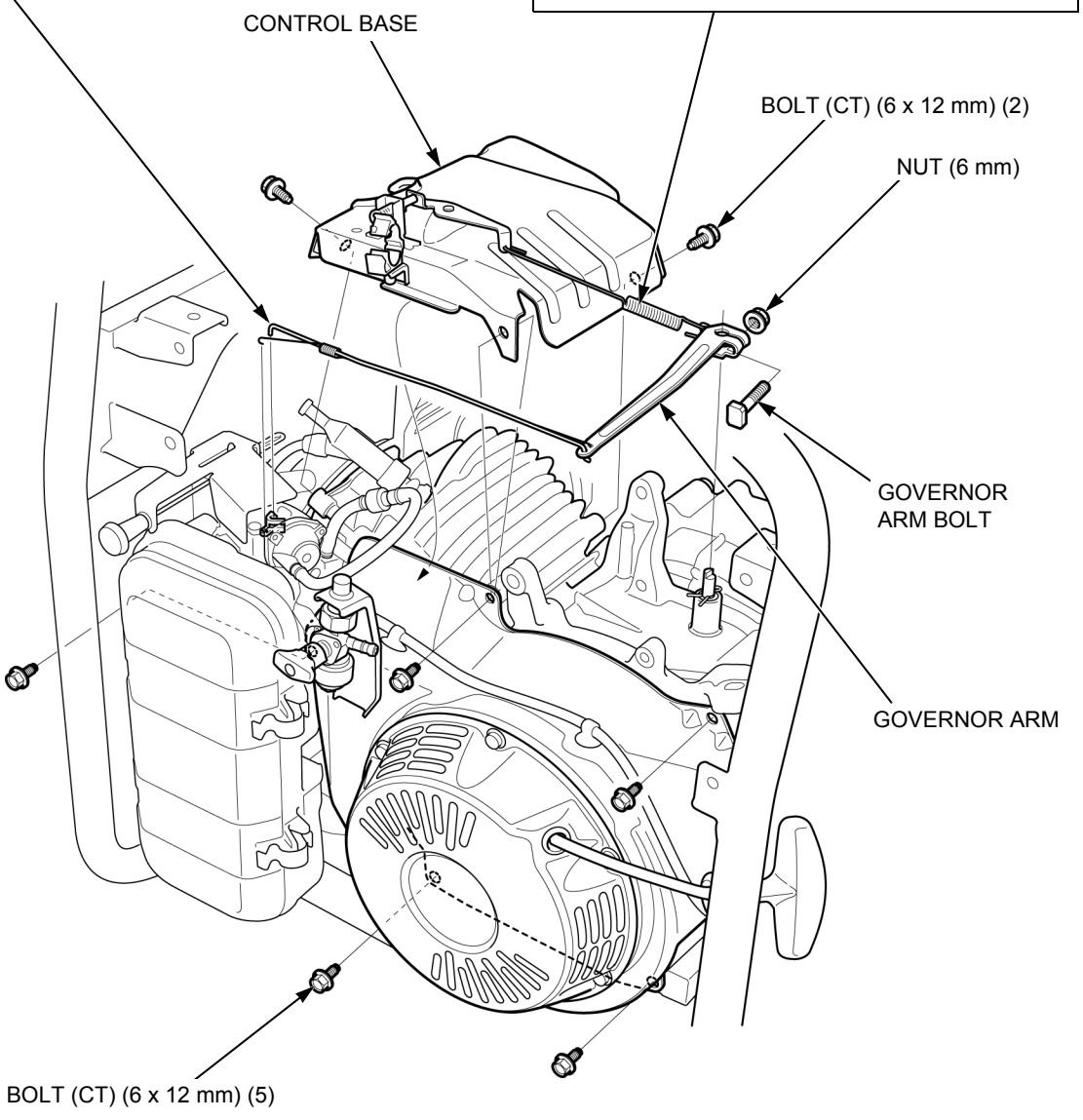
GOVERNOR SPRING

MH, RH, KH, RHH, UH, RGH type:



SH, SKH, LDH, LTH type:





GOVERNOR ADJUSTMENT

Loosen the nut (1) on the governor arm pinch bolt (2), and move the governor arm to fully open the throttle.

Rotate the governor arm shaft (4) as far as it will go in the same direction and governor arm moved to open the throttle.

Start the engine and allow it to warm up to normal operating temperature. Move the throttle arm (5) to run the engine at the standard maximum speed, and adjust the throttle arm limiting screw (6) so the throttle arm cannot be moved past that point.

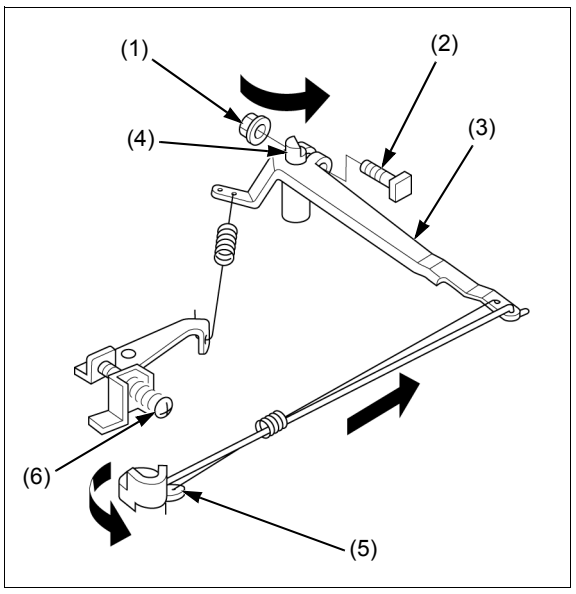
ENGINE SPEED:

Except SH, SKH, LDH, LTH type:

3,000 ± 100 min^{-1} (rpm)

SH, SKH, LDH, LTH type:

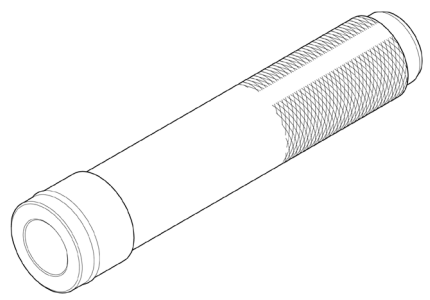
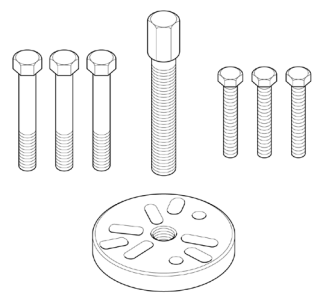
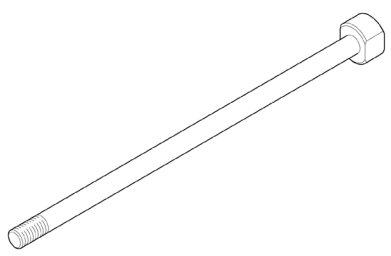
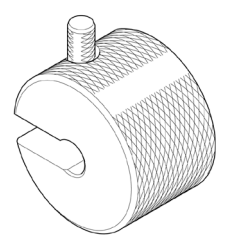
3,600 ± 100 min^{-1} (rpm)



MEMO

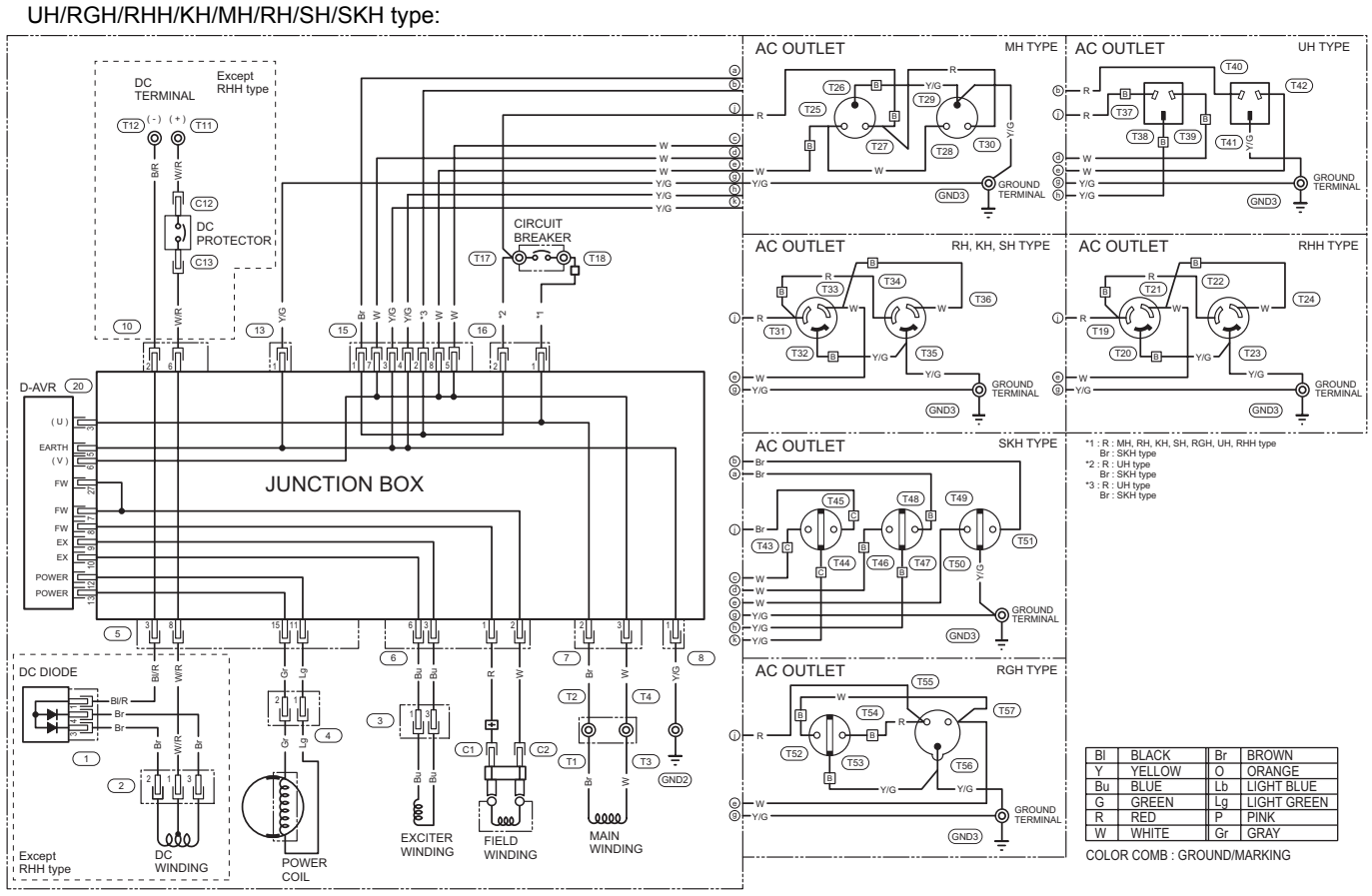
7. GENERATOR/CHARGING SYSTEM

TOOLS

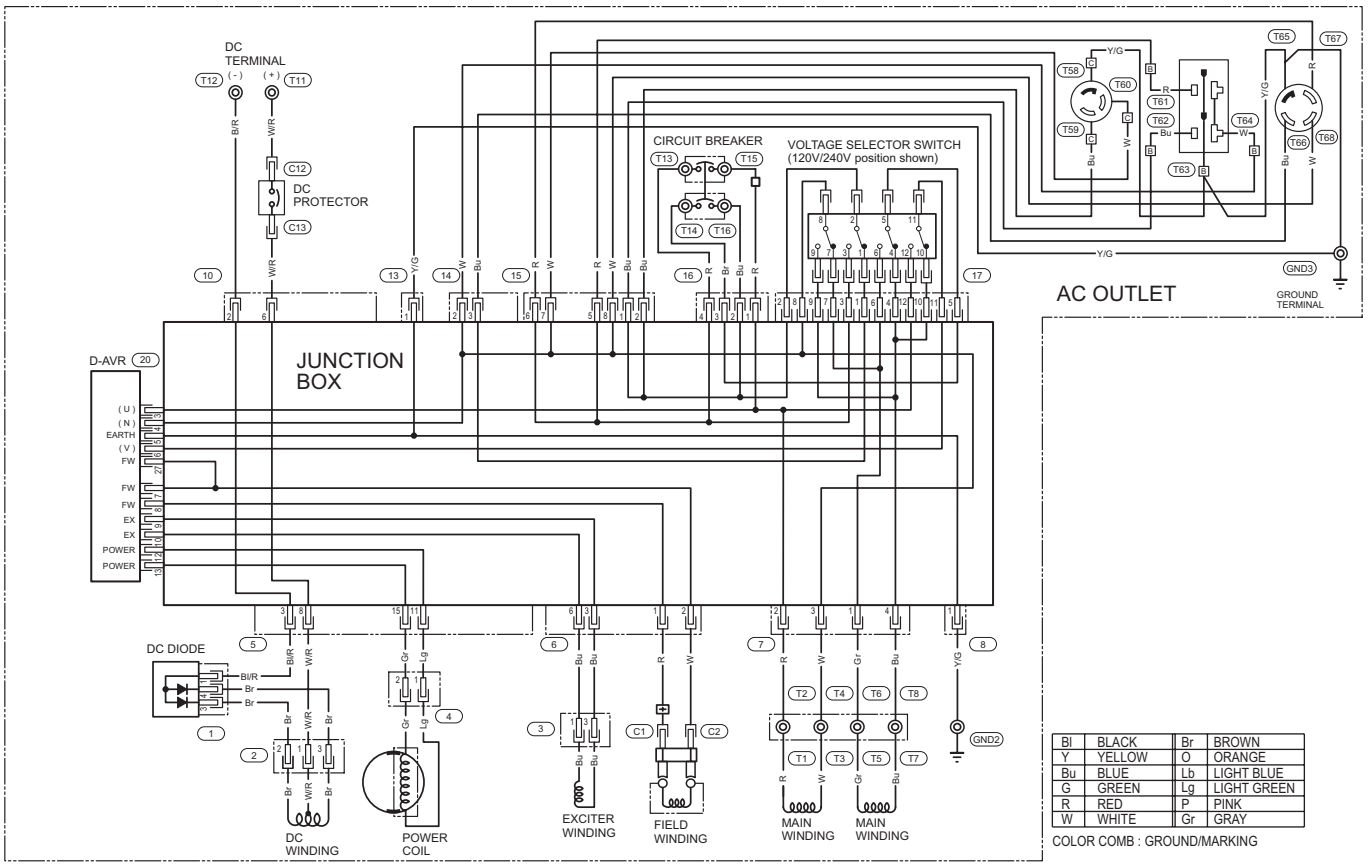
Driver attachment, 20 mm I.D. 07746-0020400 	Driver, 22 mm I.D. 07746-0020100 	Flywheel pulley set 07935-8050004 
Sliding shaft 07736-0010101 	Remover weight 07741-0010201 	

GENERATOR SYSTEM DIAGRAM

UH/RGH/RHH/KH/MH/RH/SH/SKH type:



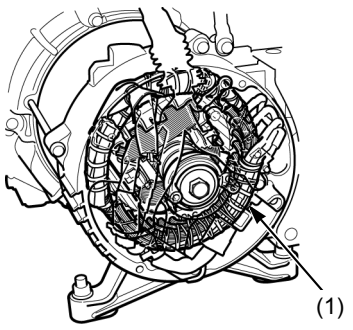
LDH/LTH type:



GENERATOR SYSTEM TROUBLESHOOTING

No or Low AC Output

Remove the generator end cover (page 7-15) and inspect the stator winding (1) for discoloration.



Discolored → Replace the stator (page 7-13).

Normal ↓

Check the engine speed.
STANDARD:
Except SH, SKH, LDH, LTH type:
3,000 ± 100 min^{-1} (rpm)
SH, SKH, LDH, LTH type:
3,600 ± 100 min^{-1} (rpm)

Abnormal → Adjust the governor (page 6-3).

Normal ↓

Measure the voltage of the main winding (page 7-15).

Normal → Open circuit in wire harness between the receptacle and main winding.

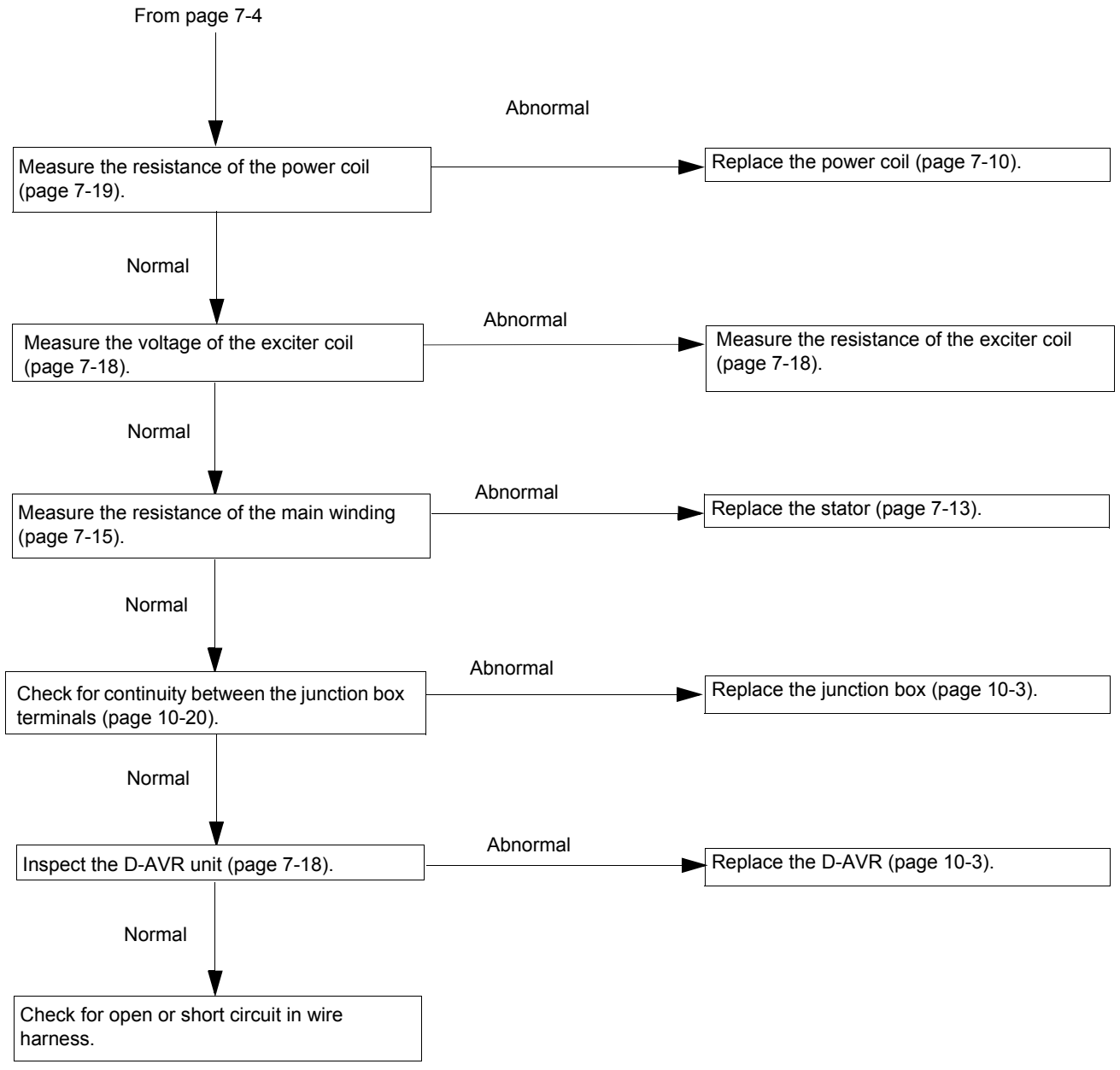
Abnormal ↓

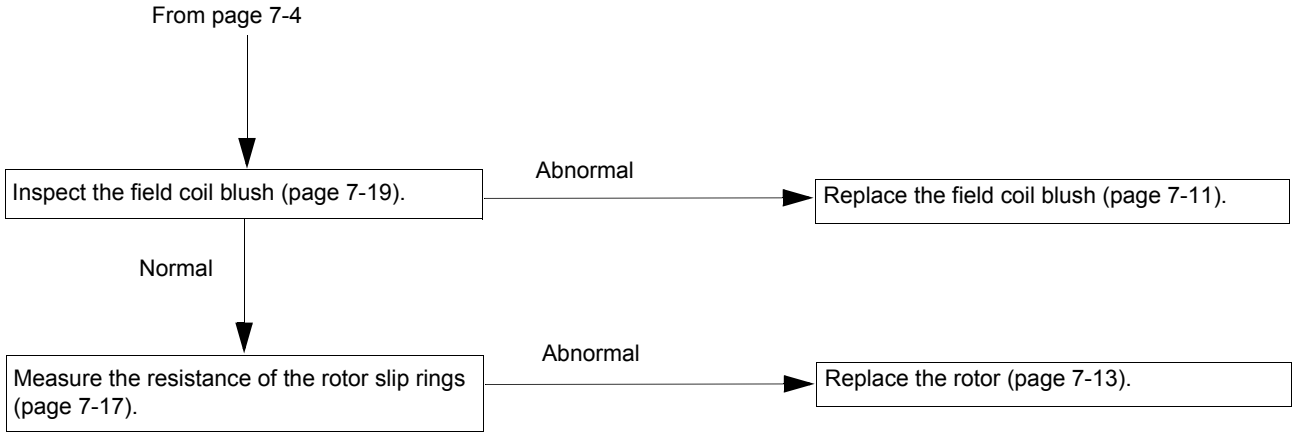
Measure the voltage of the field winding (page 7-17).

Abnormal → Go to page 7-6

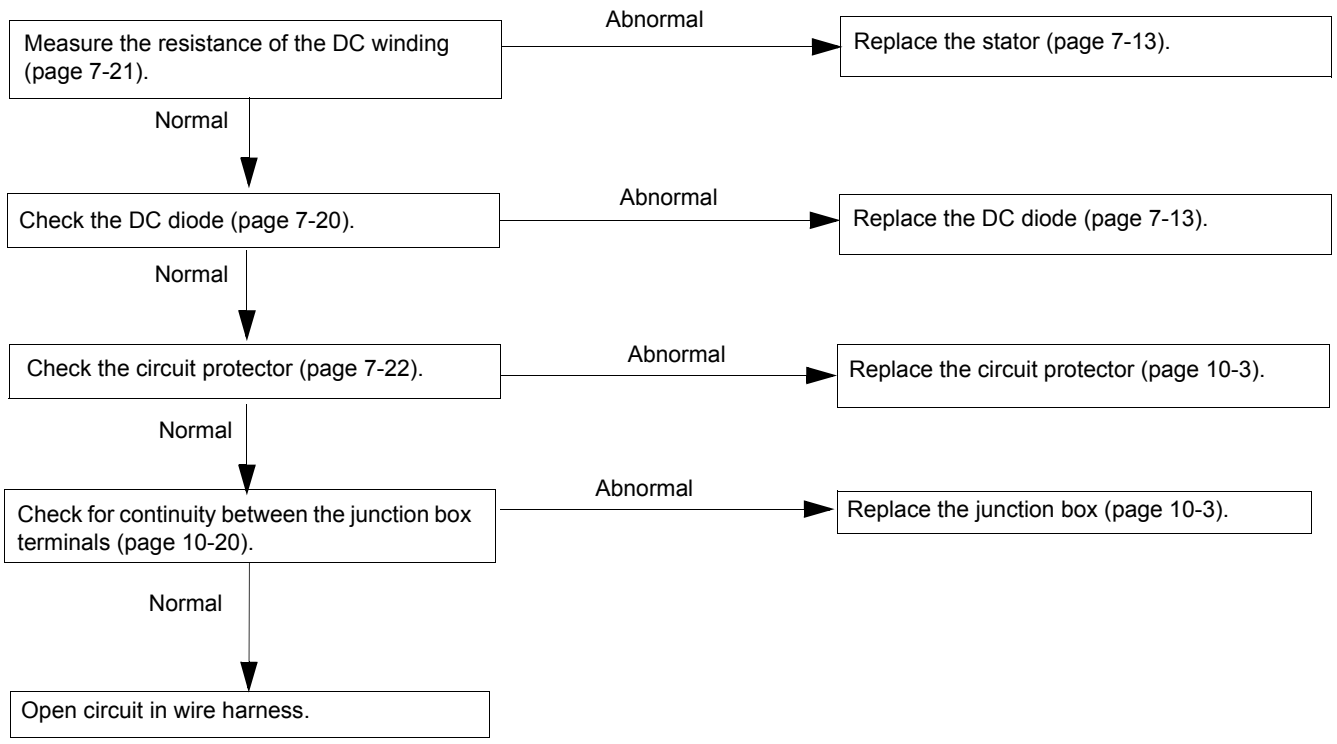
Normal ↓

Go to page 7-5





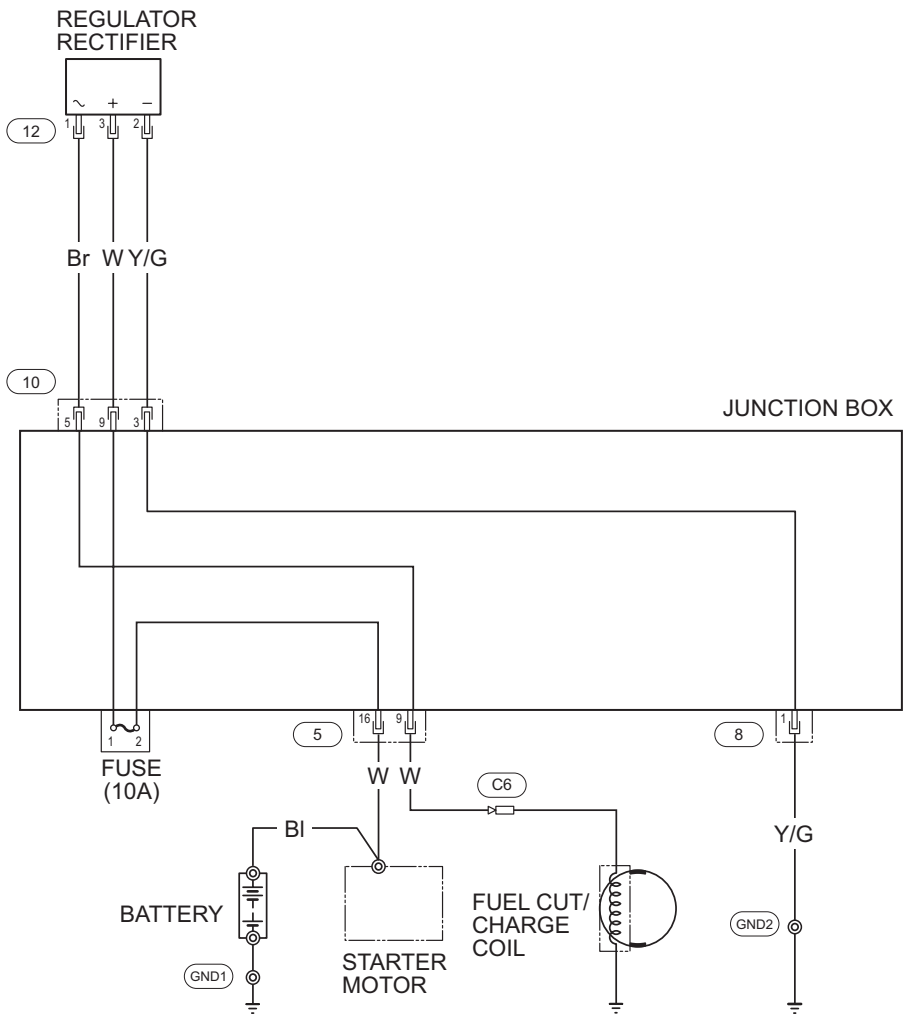
No DC Output



BEFORE CHARGING SYSTEM TROUBLESHOOTING (CXS TYPE ONLY)

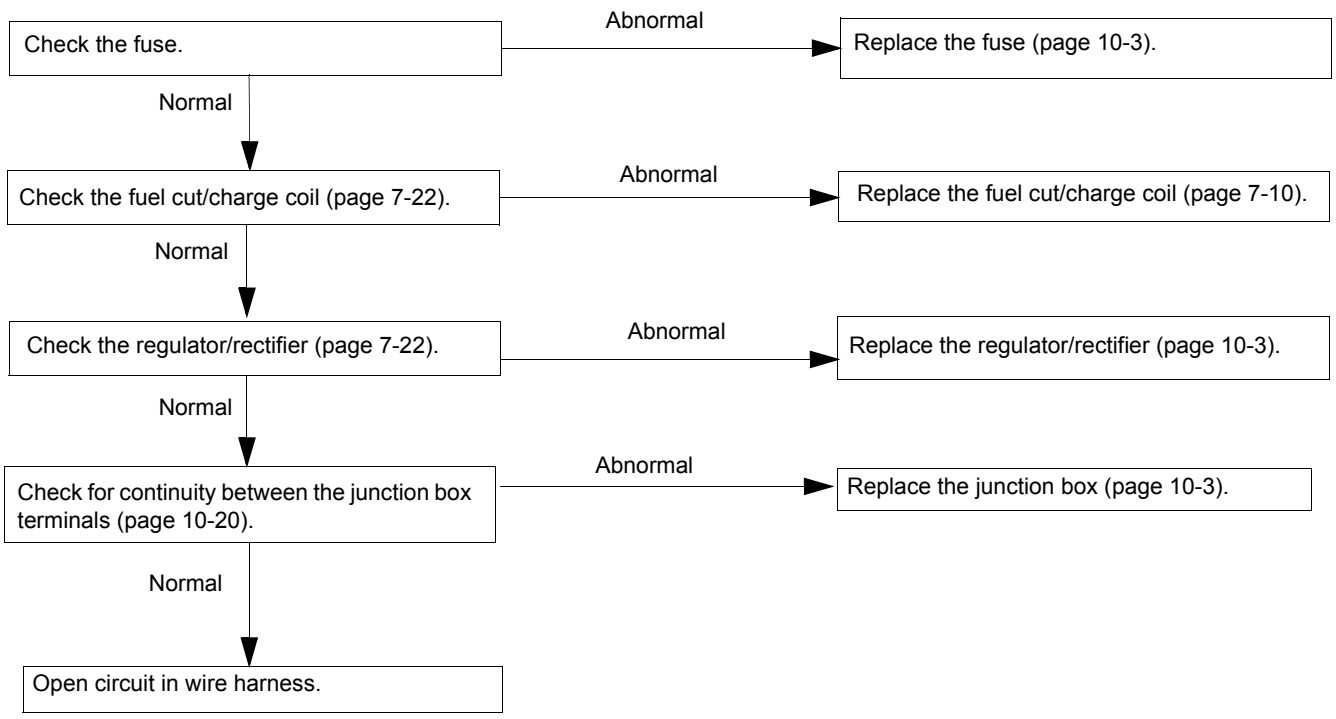
- Use a known-good battery for troubleshooting.
- Check that the connectors are connected securely.
- Read the circuit tester's operation instructions carefully, and observe the instructions during inspection.
- Disconnect the battery cable before continuity inspection.

CHARGING SYSTEM DIAGRAM (CXS TYPE ONLY)



Bl	BLACK
G	GREEN
Y	YELLOW
Br	BROWN
W	WHITE

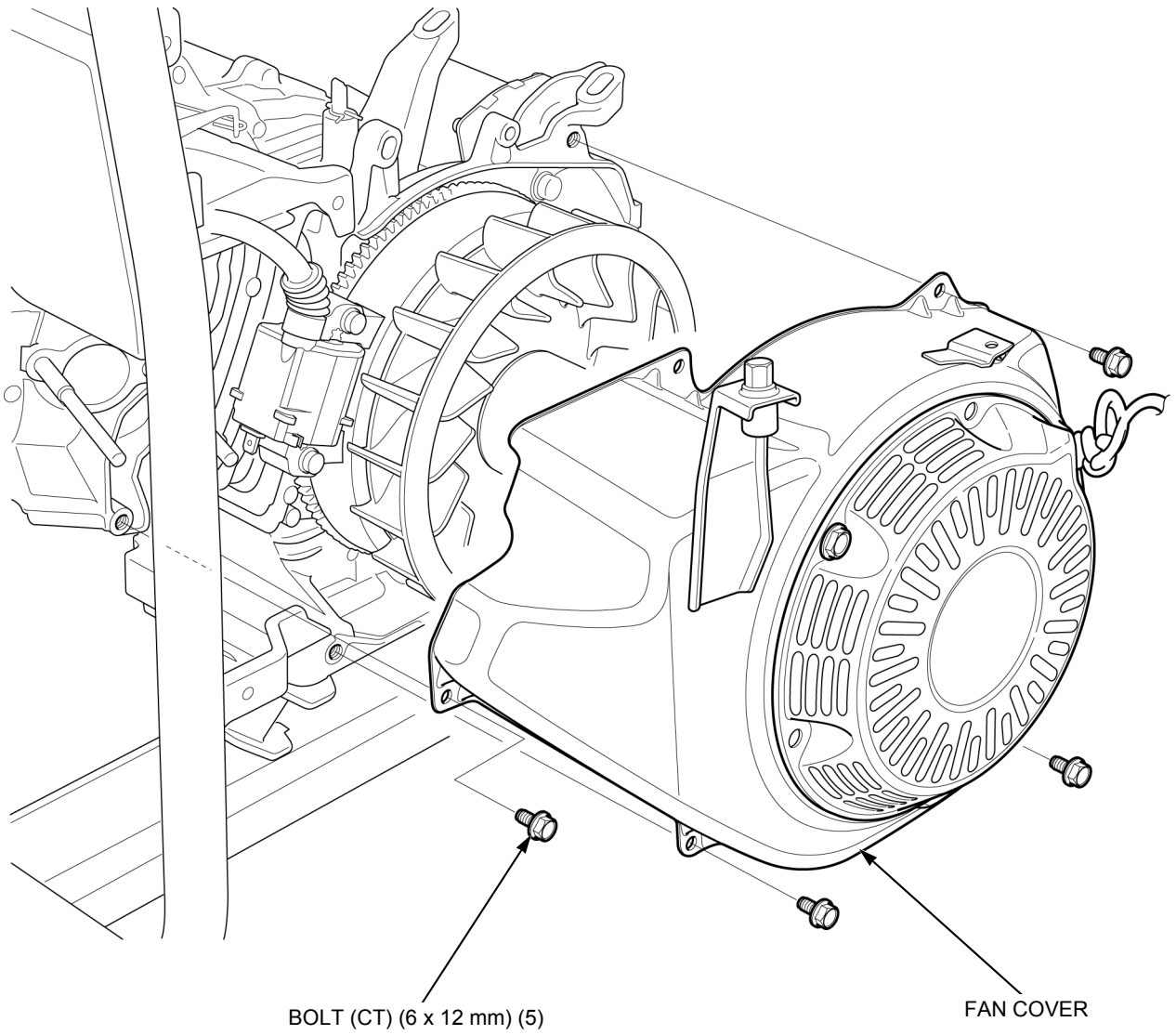
CHARGING SYSTEM TROUBLESHOOTING (CXS TYPE ONLY)



FAN COVER REMOVAL/INSTALLATION

Remove the following:

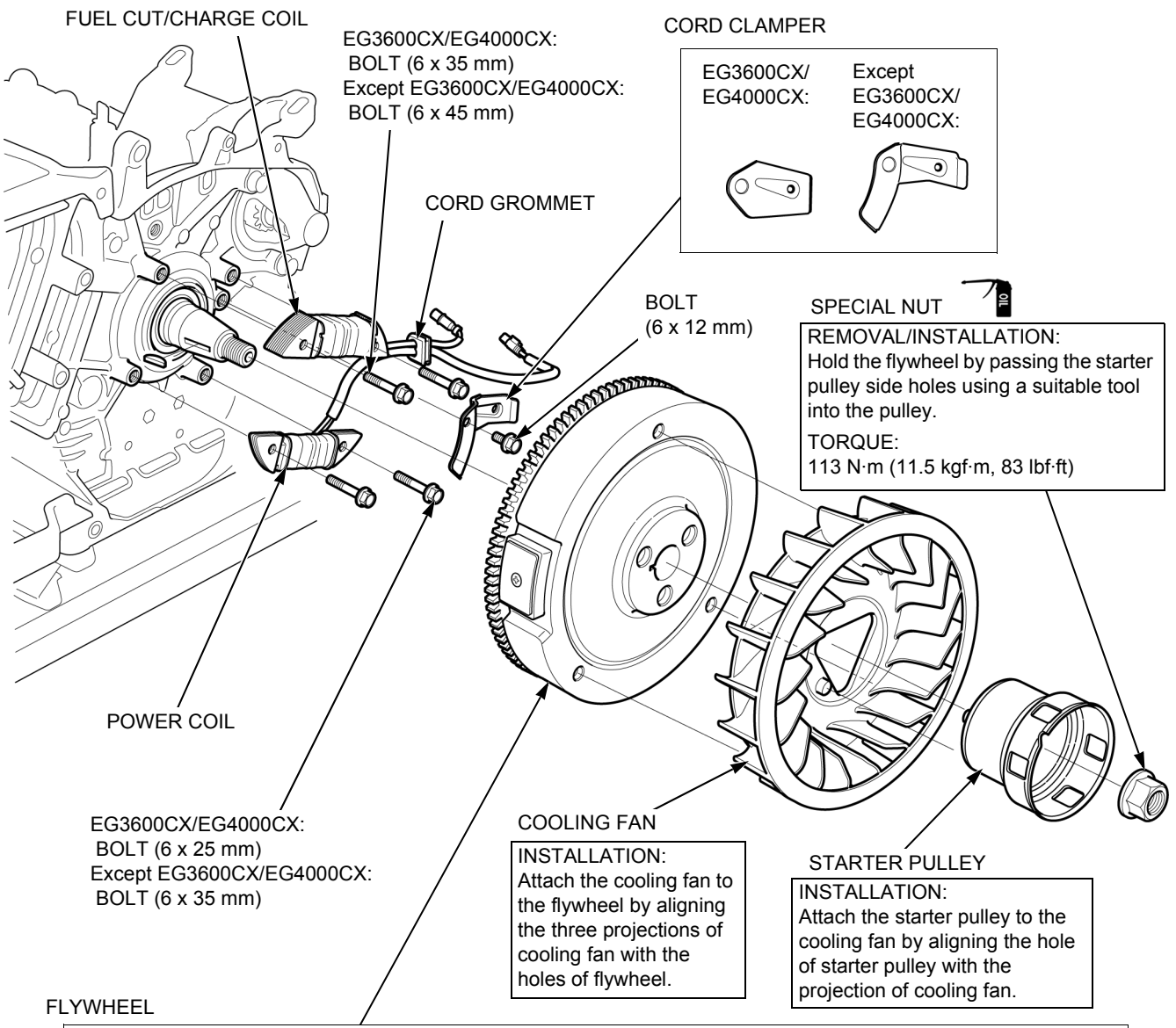
- Fuel valve (page 5-5)
- Carburetor/carburetor insulator (page 5-6)
- Recoil starter grip (page 9-4)



FLYWHEEL/FUEL CUT/CHARGE COIL/POWER COIL REMOVAL/ INSTALLATION

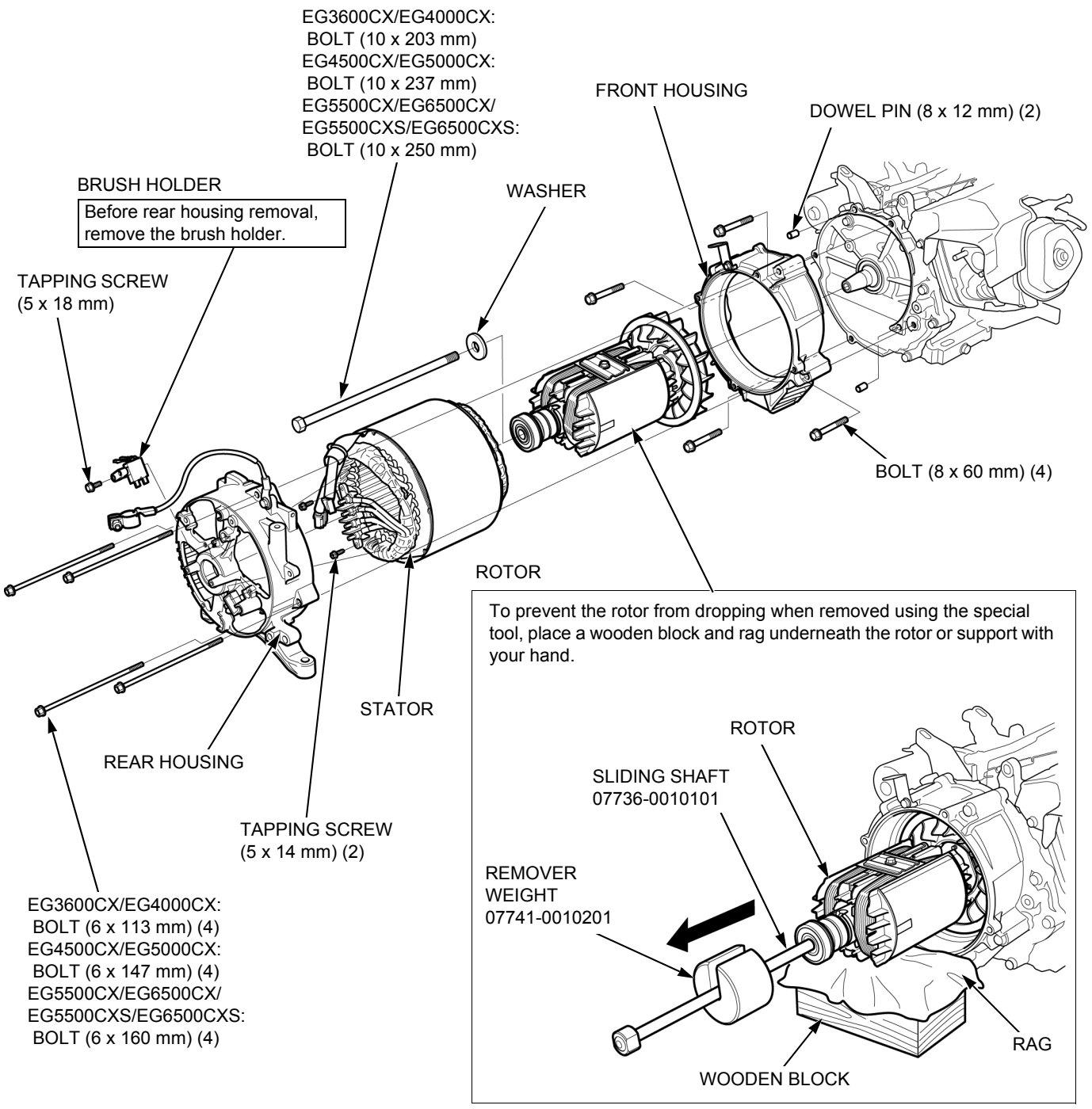
Remove the following:

- Fan cover (page 7-9)
- Ignition coil (page 8-4)



GENERATOR REMOVAL

Remove the engine (page 12-2).



To prevent the rotor from dropping when removed using the special tool, place a wooden block and rag underneath the rotor or support with your hand.

GENERATOR INSTALLATION

Rotate the crankshaft and align the ▽ mark (1) on the starter pulley with the hole (2) of recoil starter case.
Make sure the piston is at top dead center on the compression stroke.

Install two dowel pins (3) and front housing (4).
Install and tighten four bolts (5).

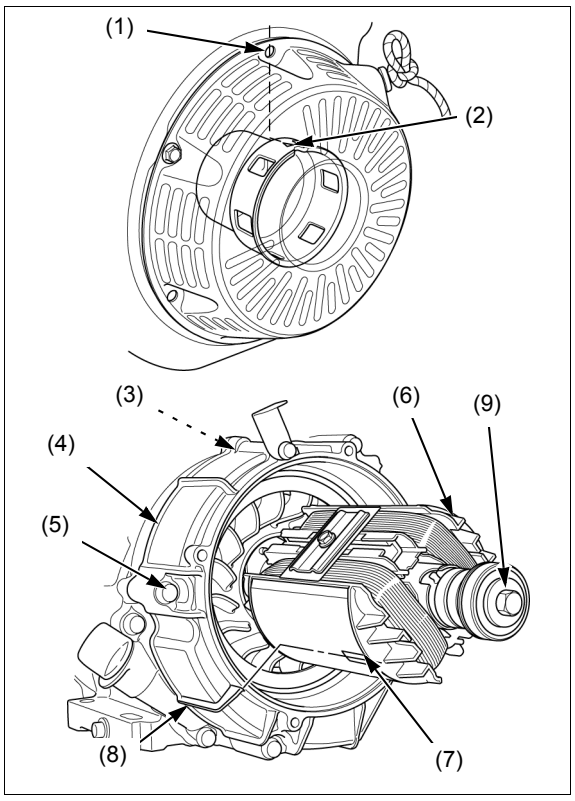
TORQUE: 24 N·m (2.4 kgf·m, 18 lbf·ft)

Degrease the tapered surface of the rotor and crankshaft.

Install the rotor (6) to crankshaft by aligning magnet (7) of rotor and rib (8) of front housing.

Install and tighten bolt (9) to the specified torque.

TORQUE: 44 N·m (4.5 kgf·m, 32 lbf·ft)



Install the stator to the engine by aligning the ribs (1) for welding and ▽ marks (2) of front housing.

Install the rear housing (3).
Install and tighten four bolts (4) to the specified torque in a crisscross pattern.

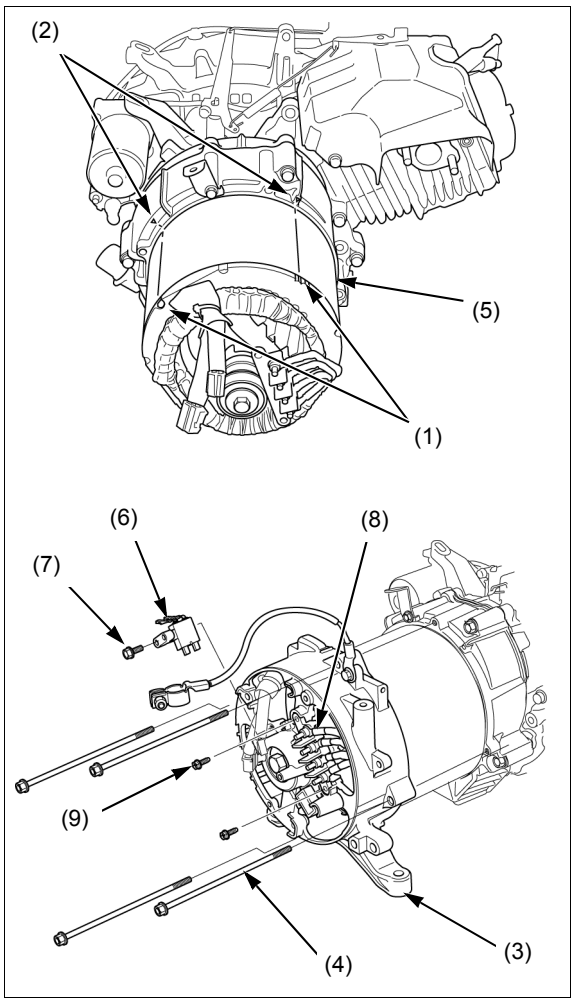
TORQUE: 9.8 N·m (1.00 kgf·m, 7.2 lbf·ft)

After rear housing installation, check the following:

- There is not clearance between the front housing and stator cover (5).
- Rotor turns around smoothly by pulling the recoil rope.

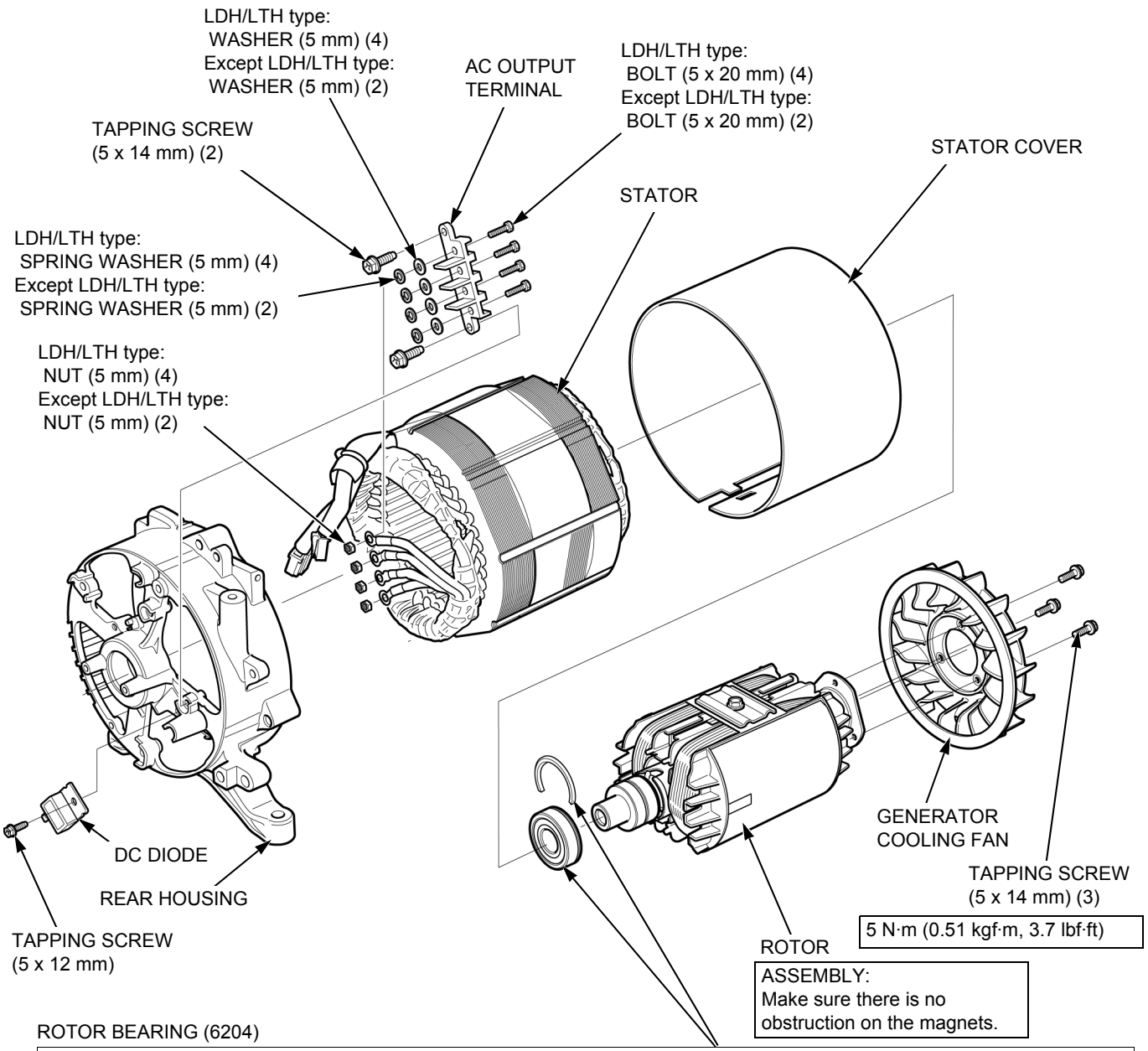
Install the brush holder (6) and tighten the screw (7).

Install the AC output terminal (8) and tighten the bolt (9).



GENERATOR DISASSEMBLY/ASSEMBLY

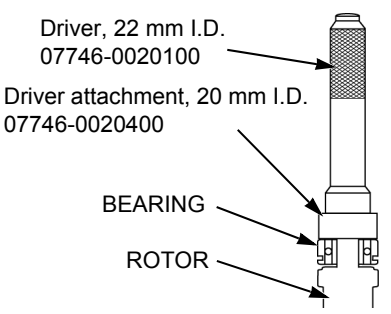
Remove the generator (page 7-11).



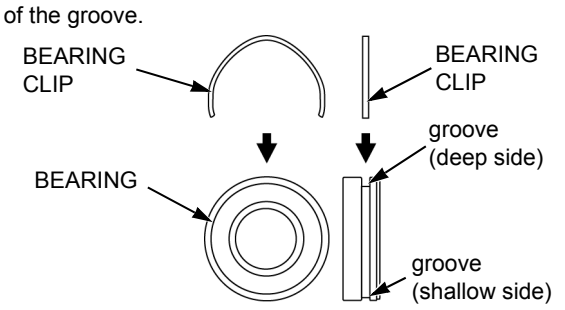
ROTOR BEARING (6204)

REMOVAL:
Be careful not to damage the slip rings. Avoid contact with the slip ring area while bearing removal and installation.
When replacing the bearing, always use a new bearing with clip.

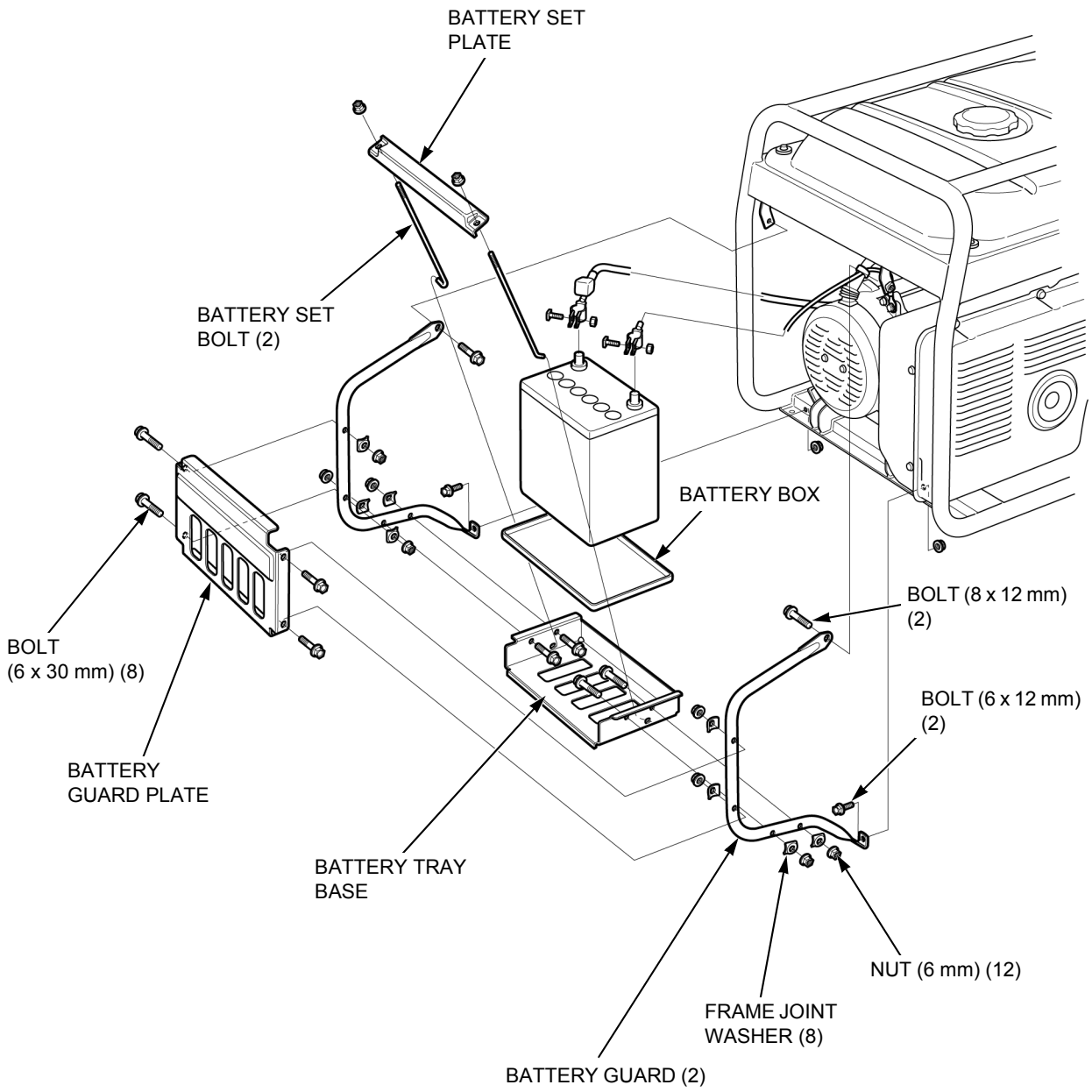
INSTALLATION:
Install the bearing with the grooved end towards the rotor, using a special tools.



Install the bearing clip in the bearing groove, so the gap is at the shallow part of the groove, and the raised area of the clip is centered in the deepest part of the groove.



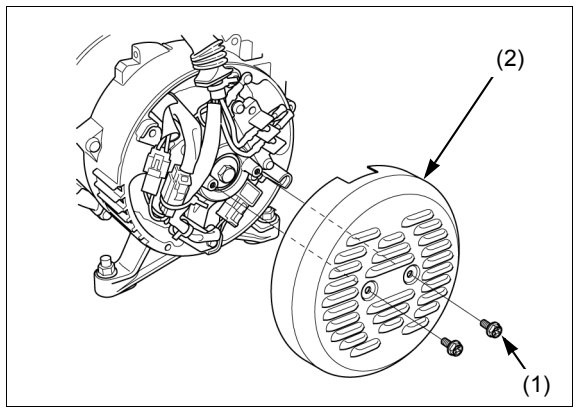
BATTERY TRAY REMOVAL/INSTALLATION (CXS TYPE ONLY)



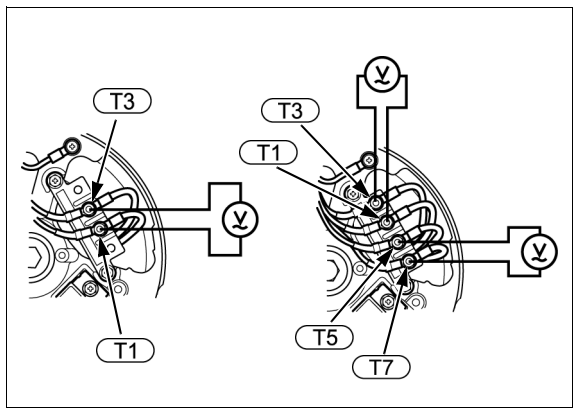
MAIN WINDING INSPECTION

VOLTAGE INSPECTION

Remove the two screws (1) and generator end cover (2).



Start the engine and measure the AC voltage between the terminals according to the table below.



RH, KH, MH type

Main winding terminal	Voltage (VAC)
(T1) (Brown) and (T3) (White)	210 - 230

RHH, RGH type

Main winding terminal	Voltage (VAC)
(T1) (Brown) and (T3) (White)	220 - 240

UH type

Main winding terminal	Voltage (VAC)
(T1) (Brown) and (T3) (White)	230 - 250

SH, SKH type

Main winding terminal	Voltage (VAC)
(T1) (Brown) and (T3) (White)	210 - 230

LDH, LTH type

Main winding terminal	Voltage (VAC)
(T1) (Red) and (T3) (White)	110 - 130
(T5) (Gray) and (T7) (Blue)	110 - 130

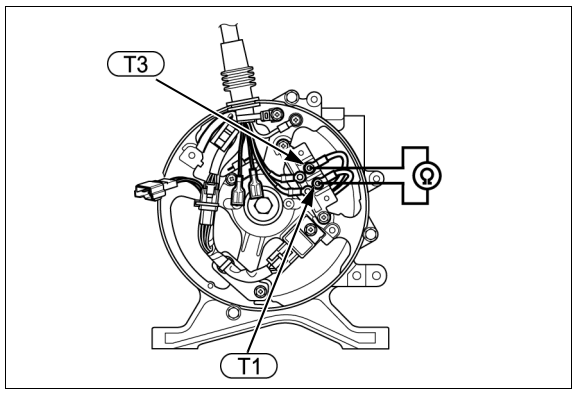
CONTINUITY INSPECTION

SINGLE MAIN WINDING TYPE:

Remove the generator end cover (page 7-15).

Remove the nuts and disconnect the main winding terminal (T2) and main winding terminal (T4).

Measure the resistance between the stator side terminals according to the table below.



	Main winding terminal	Resistance (Ω) (at 20 °C/68 °F)
EG4000 (RH, KH, MH type)	**(T1) (Brown) and (T3) (White)**	**1.3**
EG3600 (UH type) EG4000 (RHH type)	**(T1) (Brown) and (T3) (White)**	**1.4**

	Main winding terminal	Resistance (Ω) (at 20 °C/68 °F)
EG5000 (RH, KH, MH type)	**(T1) (Brown) and (T3) (White)**	**0.8**
EG4500 (UH, RGH type) EG5000 (RHH type)	**(T1) (Brown) and (T3) (White)**	**0.9**
EG5000 (SH, SKH type)	**(T1) (Brown) and (T3) (White)**	**0.7**

	Main winding terminal	Resistance (Ω) (at 20 °C/68 °F)
EG6500 (RH, KH, MH type)	**(T1) (Brown) and (T3) (White)**	**0.6**
EG5500 (UH, RGH type) EG6500 (RHH type)	**(T1) (Brown) and (T3) (White)**	**0.7**
EG6500 (SH, SKH type)	**(T1) (Brown) and (T3) (White)**	**0.5**

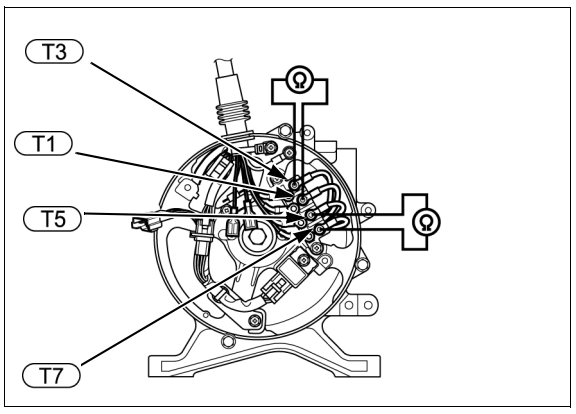
If the specified resistance is zero or infinity, replace the stator.

DUAL MAIN WINDING TYPE:

Remove the generator end cover (page 7-15).

Remove the nuts and disconnect the main winding terminal (T2), main winding terminal (T4), main winding terminal (T6), main winding terminal (T8).

Measure the resistance between the stator side terminals according to the table below.



	Main Winding terminal	Resistance (Ω) (at 20 °C/68 °F)
EG4000 (LDH type)	**(T1) (Red) and (T3) (White)**	**0.6**
	(T5) (Gray) and (T7) (Blue)	**0.6**

	Main Winding terminal	Resistance (Ω) (at 20 °C/68 °F)
EG4000 (LDH type)	**(T1) (Red) and (T3) (White)**	**0.4**
	(T5) (Gray) and (T7) (Blue)	**0.4**

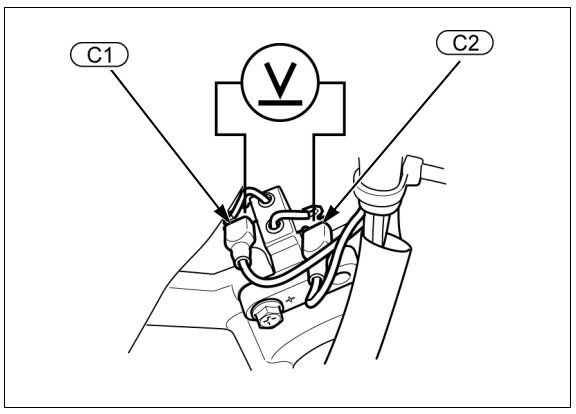
	Main Winding terminal	Resistance (Ω) (at 20 °C/68 °F)
EG6500 (LDH, LTH type)	**(T1) (Red) and (T3) (White)**	**0.3**
	(T5) (Gray) and (T7) (Blue)	**0.3**

If the specified resistance is zero or infinity, replace the stator.

FIELD WINDING INSPECTION

Remove the generator end cover (page 7-15).

Start the engine and measure the DC voltage at the brush terminals.



EG3600, EG4000:

Field winding terminal	Voltage (VDC)
(C1) (Red) and (C2) (White)	**About 25**

EG4500, 5000, 5500, 6500:

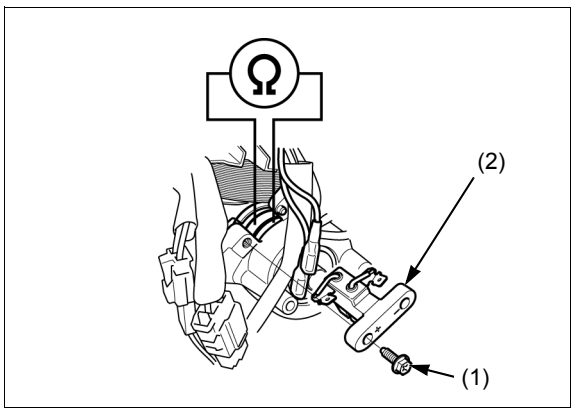
Field winding terminal	Voltage (VDC)
(C1) (Red) and (C2) (White)	**About 30**

If the specified voltage is not obtained, stop the engine and remove the screw (1) and brush holder (2).

Measure the resistance between the slip rings (2).

Type	Resistance (Ω) (at 20 °C/68 °F)
EG3600, 4000	47
EG4500, 5000	60
EG5500, 6500	62

If the specified resistance is zero or infinity, clean the slip rings or replace the rotor.



D-AVR UNIT INSPECTION

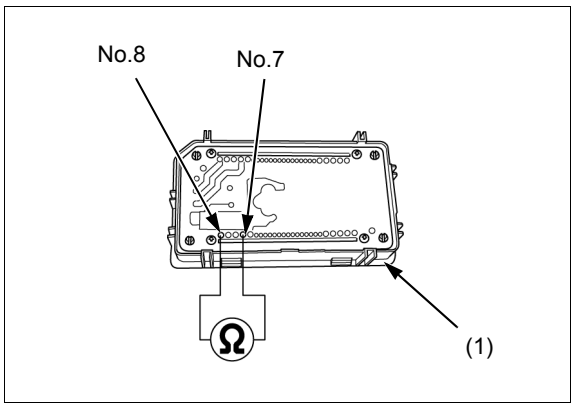
Remove the D-AVR cover (page 10-3).

Measure the resistance between the D-AVR unit (1) No.7 terminal and No.8 terminal.

- When measuring the resistance, connect the tester probes to the terminals.
  Do not connect the probes to the soldered part.

Resistance: 1.0 kΩ maximum

If the specified resistance is zero or infinity, replace the D-AVR.

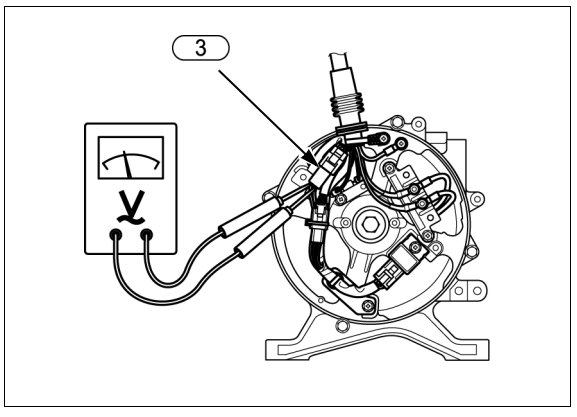


EXCITER WINDING INSPECTION

Remove the generator end cover (page 7-15).

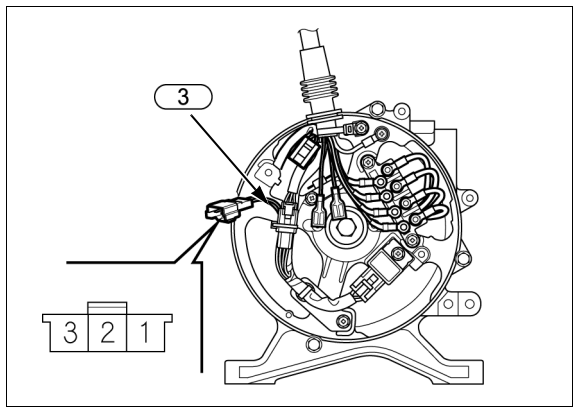
Start the engine and measure the AC voltage between the exciter winding 3P connector (3) No.1 (Blue) terminal and No.3 (Blue) terminal with connector connected.

STANDARD VOLTAGE: About 90 VAC



If the specified voltage is not obtained, stop the engine and disconnect the exciter winding 3P connector (1).

Measure the resistance between the exciter winding 3P connector (3) stator side No.1 (Blue) terminal and No.3 (Blue) terminal.



Type	Resistance (Ω) (at 20 °C/68 °F)
EG3600 (UH type) EG4000 (MH, RH, KH, RHH type)	1.5
EG4000 (LDH type)	1.3
EG4500 (UH, RGH type) EG5000 (MH, RH, KH, RHH type)	1.2
EG5000 (SKH, SH, LDH type)	1.1
EG5500 (UH, RGH type) EG6500 (MH, RH, KH, RHH type)	1.1
EG6500 (SKH, SH, LDH, LTH type)	1.0

If the specified resistance is zero or infinity, replace the stator.

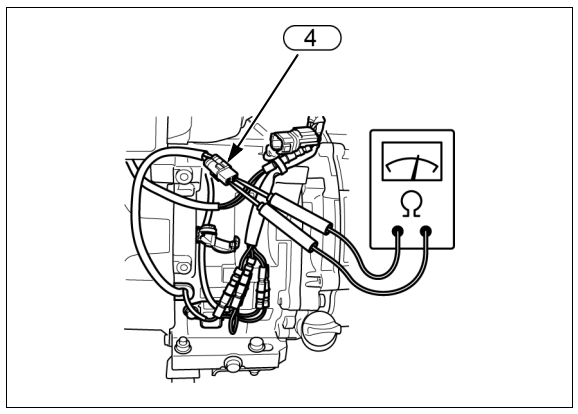
POWER COIL INSPECTION

Remove the harness clip base bolts (page 8-5).

Disconnect the power coil 2P connector (4).

Measure the resistance between the connector terminals of the power coil side.

Resistance: 0.8 – 1.2 Ω



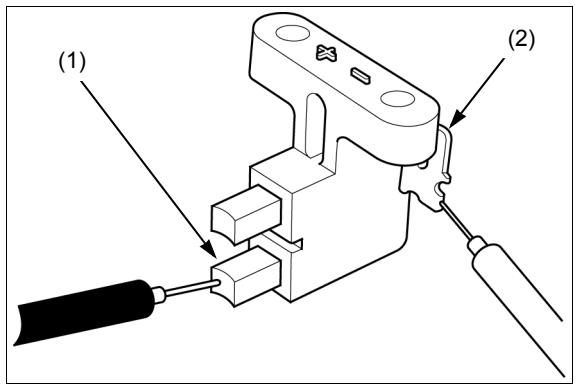
BRUSH HOLDER INSPECTION

CONTINUITY INSPECTION

Remove the brush holder (page 7-11).

Check for continuity between the each brush tip (1) and wire terminal (2).

There should be no continuity.



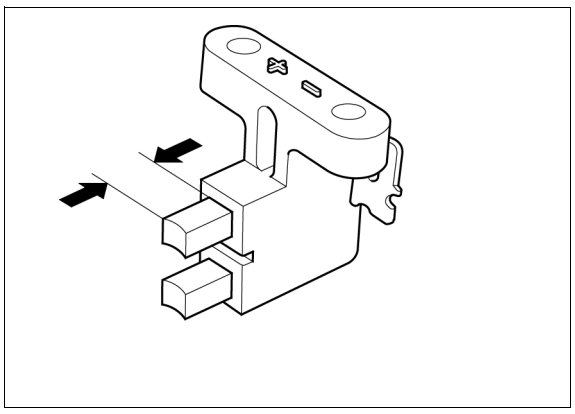
BRUSH LENGTH MEASUREMENT

Remove the brush holder (page 7-11).

Measure the brush length.

If the brush length is less than the service limit, replace the brush and brush holder.

STANDARD: 9.0 mm (0.35 in)
SERVICE LIMIT: 5.0 mm (0.20 in)



DC DIODE INSPECTION (EXCEPT RHH TYPE)

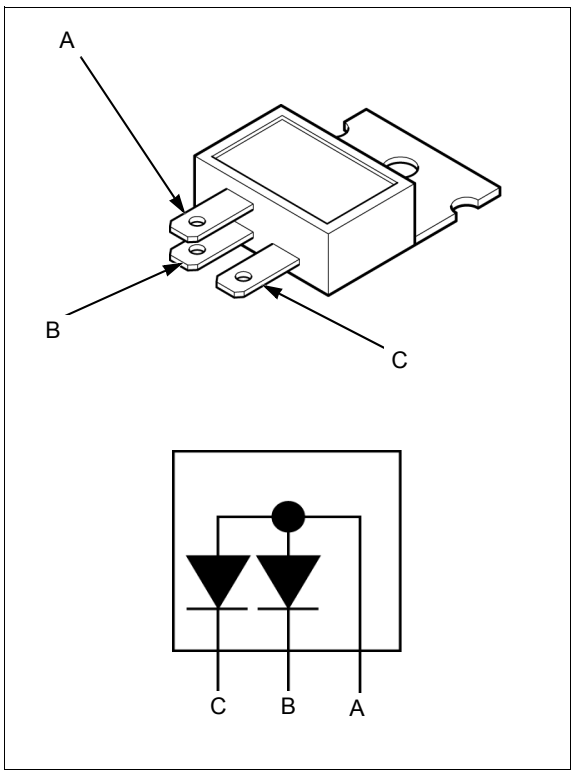
Remove the DC diode (page 7-13).

Check for continuity between the blue wire terminals according to the table below.

CONTINUITY:

		(+) probe		
		A	**B**	**C**
(–) probe	**A**	**–**	**NO**	**NO**
	B	**YES**	**–**	**NO**
	C	**YES**	**NO**	**–**

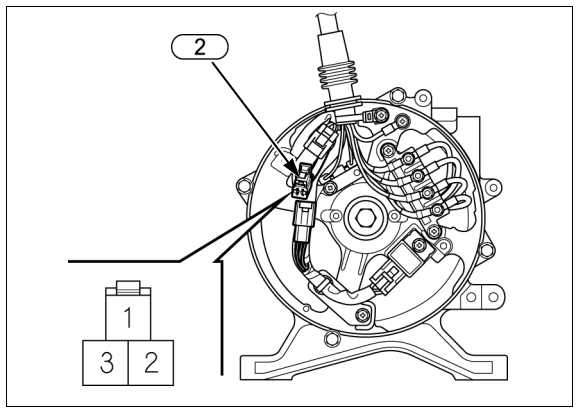
- Some meters show current flow from negative (–) to positive (+), others show flow from positive (+) to negative (–). The polarity of the meter does not matter when testing diodes. As long as the meter shows current flowing one way and not the other the diode is good.



DC WINDING INSPECTION (EXCEPT RHH TYPE)

Remove the generator end cover (page 7-15).

Disconnect the DC winding 3P connector (2).



Measure the resistance between the DC winding 3P connector stator side No.1 (White/Red) terminal and No.2 (Brown) terminal.

Type	Resistance (Ω) (at 20 °C/68 °F)
EG3600 (UH type) EG4000 (MH, RH, KH, RHH type)	0.24
EG4000 (LDH type)	0.21
EG4500 (UH, RGH type) EG5000 (MH, RH, KH, RHH type)	0.26
EG5000 (SKH, SH, LDH type)	0.23
EG5500 (UH, RGH type) EG6500 (MH, RH, KH, RHH type)	0.33
EG6500 (SKH, SH, LDH, LTH type)	0.28

Measure the resistance between the DC winding 3P connector (2) stator side No.1 (White/Red) terminal and No.3 (Brown) terminal.

Type	Resistance (Ω) (at 20 °C/68 °F)
EG3600 (UH type) EG4000 (MH, RH, KH, RHH type)	0.24
EG4000 (LDH type)	0.21
EG4500 (UH, RGH type) EG5000 (MH, RH, KH, RHH type)	0.26
EG5000 (SKH, SH, LDH type)	0.23
EG5500 (UH, RGH type) EG6500 (MH, RH, KH, RHH type)	0.33
EG6500 (SKH, SH, LDH, LTH type)	0.28

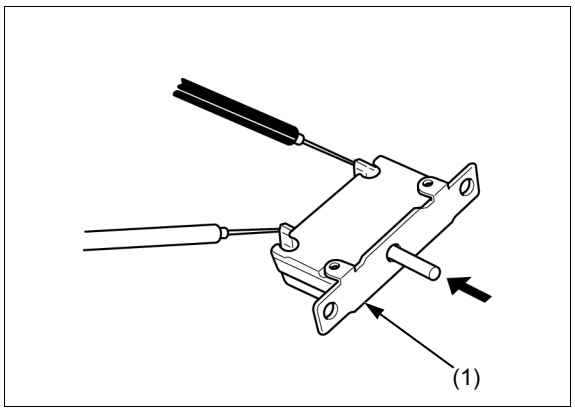
if the specified resistance is zero or infinity, replace the stator.

CIRCUIT PROTECTOR INSPECTION (EXCEPT RHH TYPE)

Remove the circuit protector (1) (page 10-3).

Check continuity between the terminals. There should be continuity in the ON position (button in) and no continuity in the OFF position (button out). Replace the circuit protector if the correct continuity is not obtained.

Switch position	Continuity
ON	Yes
OFF	No



REGULATOR/RECTIFIER INSPECTION (CXS TYPE ONLY)

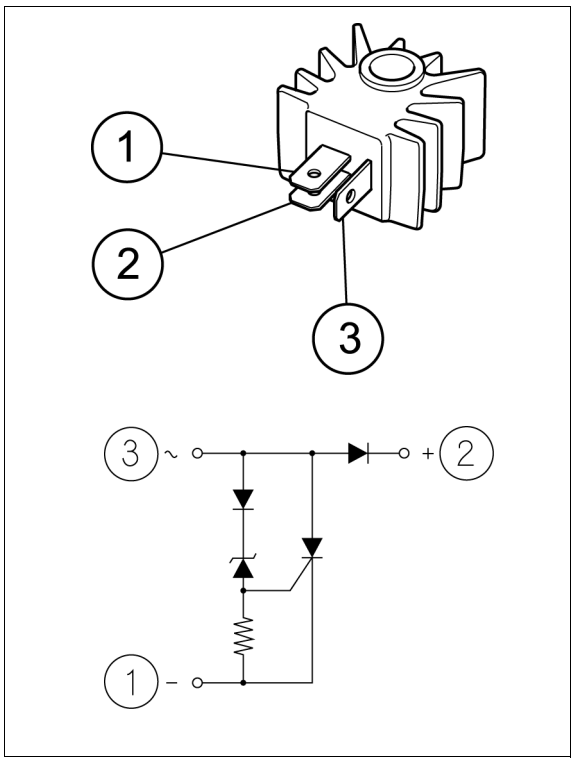
Remove the regulator/rectifier (page 10-3).

Check for continuity between the terminals according to the table below.

CONTINUITY:

		(+) probe		
		1	2	3
(–) probe	1	–	NO	NO
	2	NO	–	YES
	3	NO	NO	–

- Some meters show current flow from negative (–) to positive (+), others show flow from positive (+) to negative (–). The polarity of the meter does not matter when testing diodes. As long as the meter shows current flowing one way and not the other the diode is good.



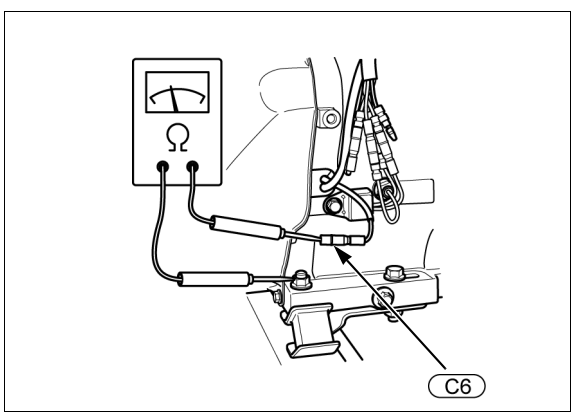
FUEL CUT/CHARGE COIL INSPECTION

Remove the harness clip base bolts (page 8-5).

Disconnect the fuel cut/charge coil wire connector (C6).

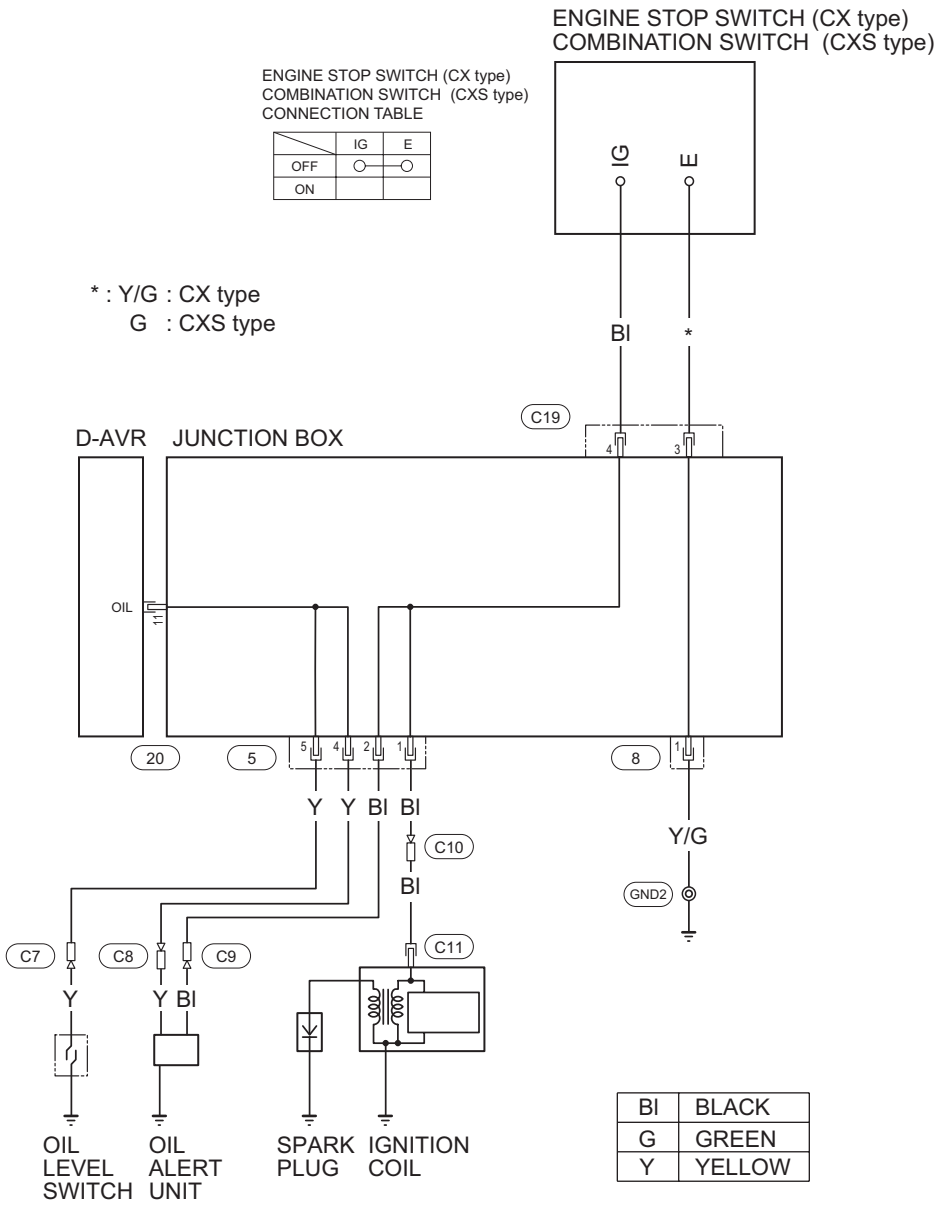
Measure the resistance between the fuel cut/charge coil wire connector (C6) fuel cut/charge coil side (White) terminal and the engine ground.

Resistance: **0.3 – 0.5 Ω**



8. IGNITION SYSTEM

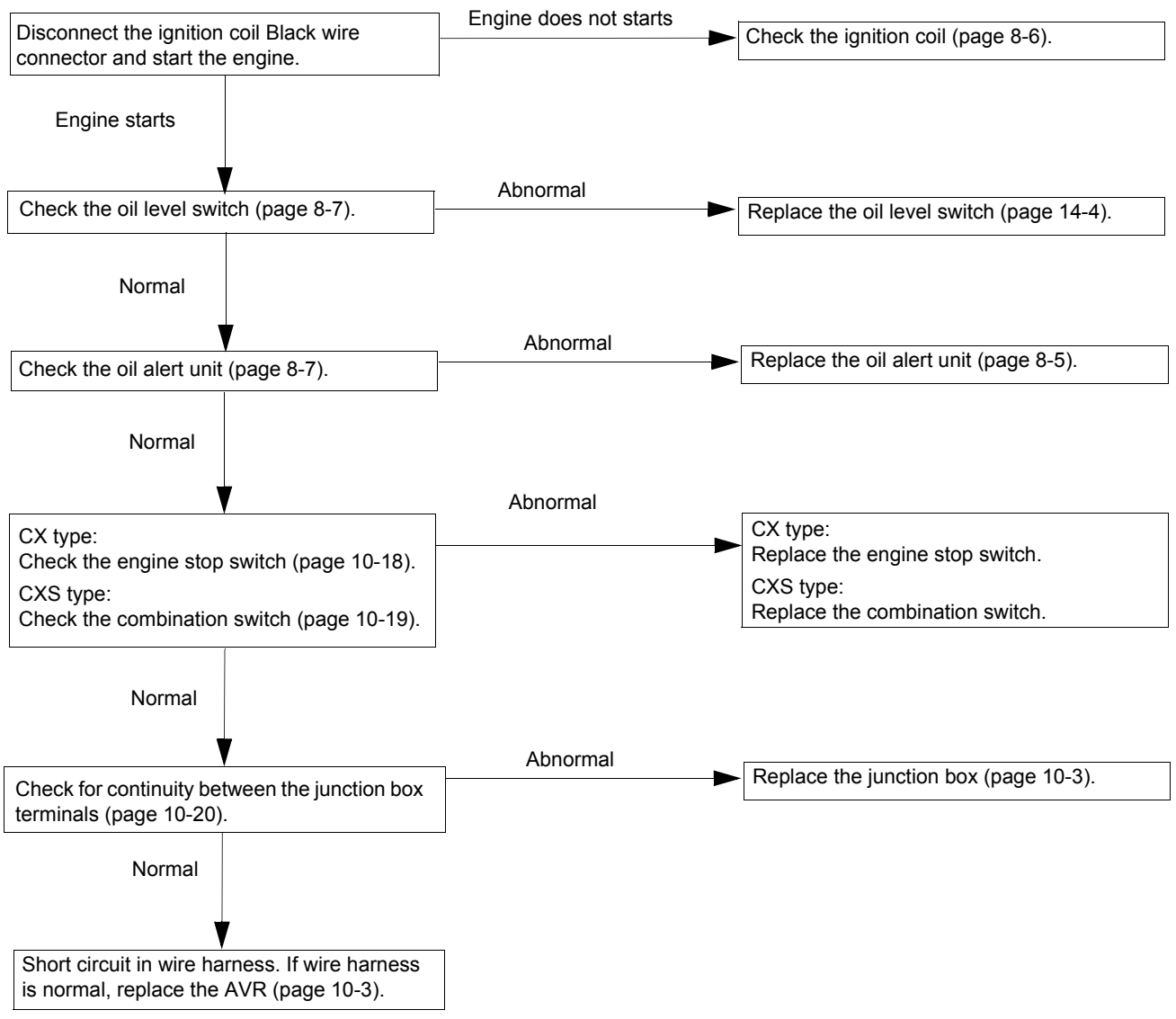
IGNITION SYSTEM DIAGRAM



IGNITION SYSTEM TROUBLESHOOTING

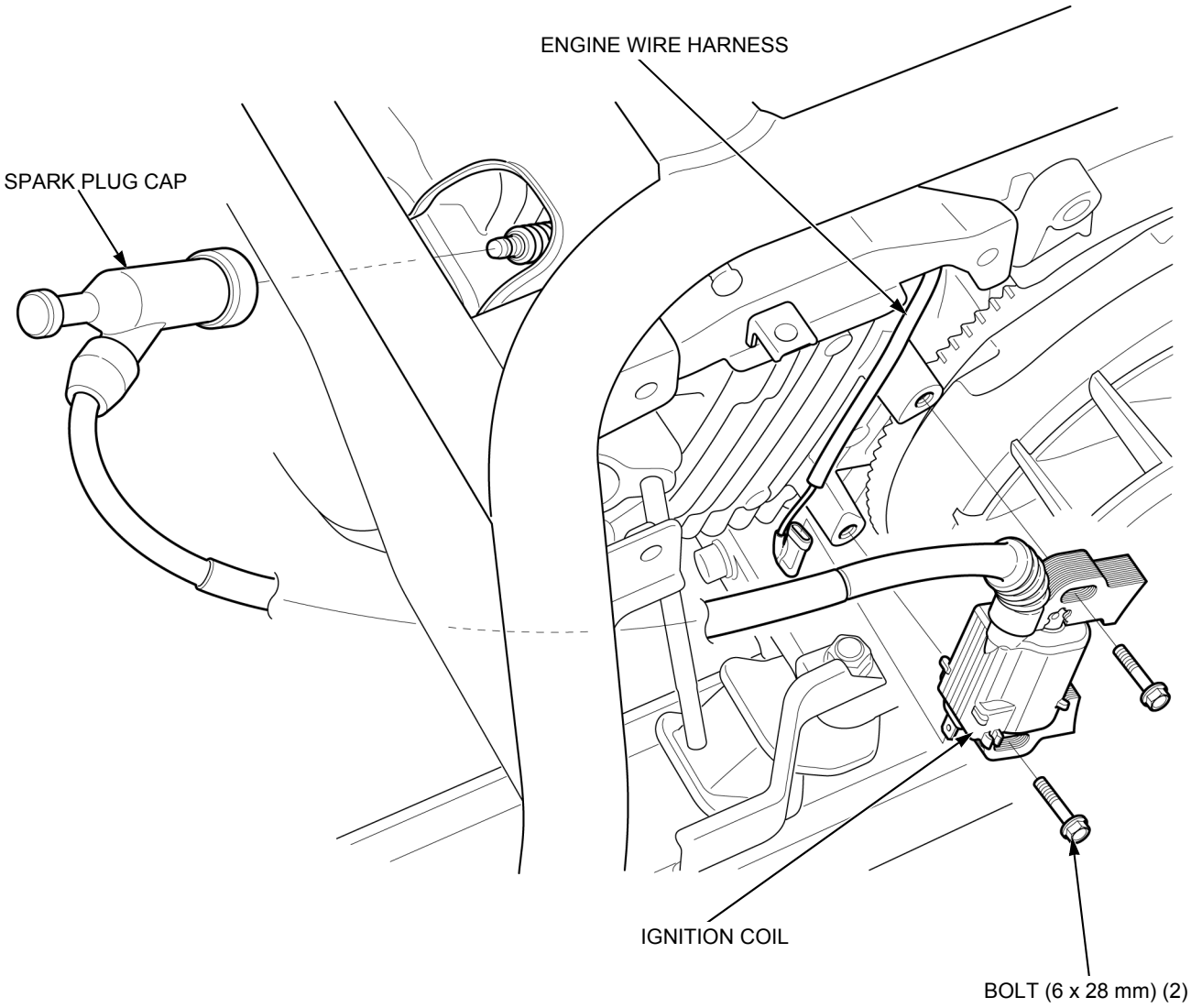
NO SPARK AT SPARK PLUG

• Check the engine oil level before troubleshooting.



IGNITION COIL REMOVAL/INSTALLATION

Remove the fan cover (page 7-9).



IGNITION COIL INSTALLATION/ ADJUSTMENT

Attach the ignition coil (1) and loosely tighten the two bolts (2).

Insert the thickness gauge (3) of proper thickness between the ignition coil and flywheel.

IGNITION COIL AIR GAP:
0.2 – 0.6 mm (0.01 – 0.02 in)

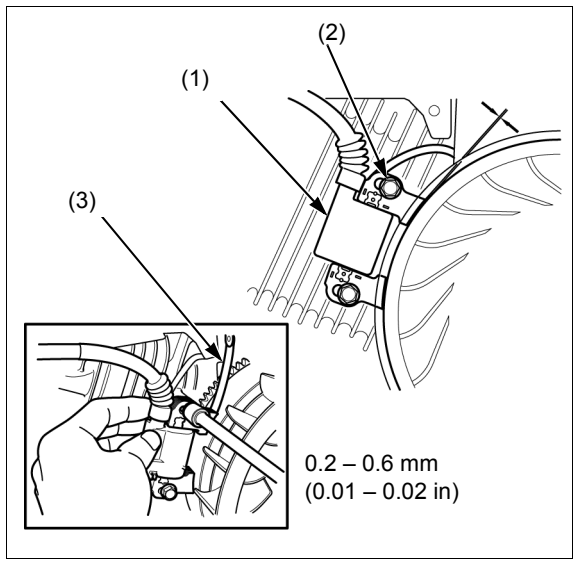
NOTICE

Adjust the ignition coil air gap equally on both sides.

Push the ignition coil firmly against the flywheel and tighten the two bolts securely.

Remove the thickness gauge.

Connect the engine wire harness to the ignition coil.
Route the engine wire harness and high-tension cord properly (page 2-13).

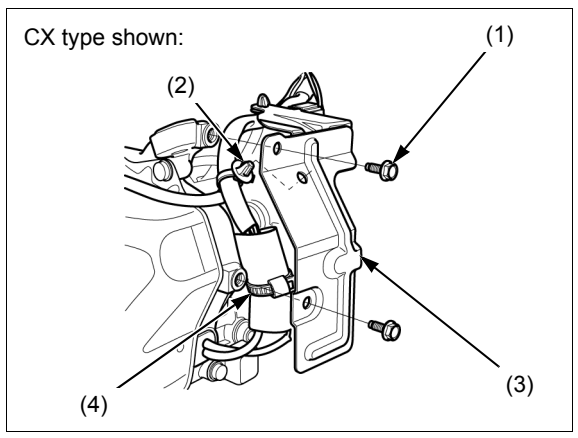


OIL ALERT UNIT REMOVAL/ INSTALLATION

Remove the two bolts (1).

Unhook the harness band boss (2) from the harness clip base (3).

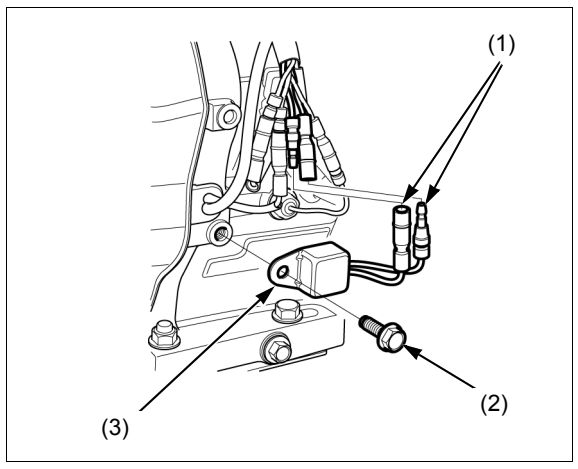
Unhook the harness band (4).



Disconnect the wire connectors (1).

Remove the bolt (2) and oil alert unit (3).

Installation is in the reverse order of removal.



SPARK TEST

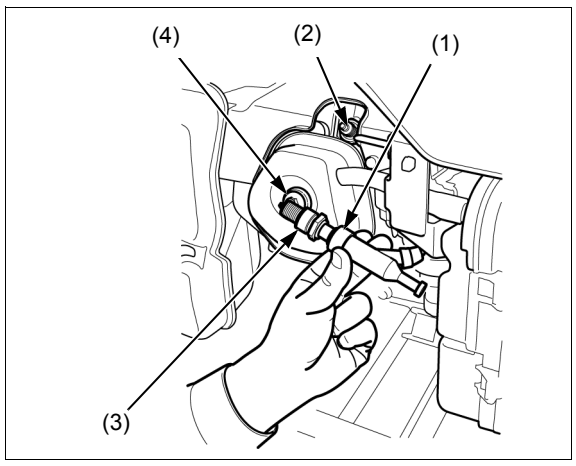
Inspect the following before spark test.

- Faulty spark plug
- Loose spark plug cap
- Water in the spark plug cap (Leaking the ignition coil secondary voltage)
- Loose ignition coil connector.

Disconnect the spark plug cap (1) from the spark plug (2).

Connect a known-good spark plug (3) to the spark plug cap and ground the spark plug to the cylinder head bolt (4).

Crank the engine by pulling the recoil starter forcefully and check whether sparks jump across the electrode.



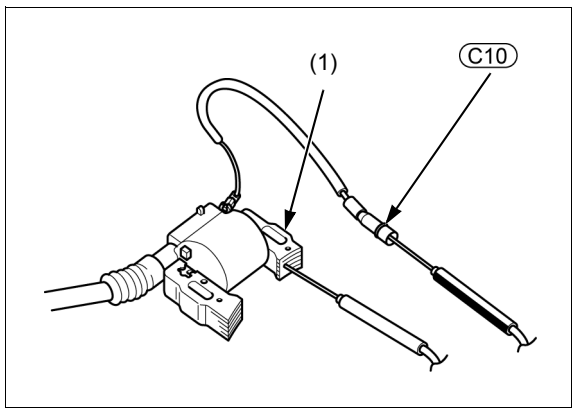
IGNITION COIL INSPECTION

PRIMARY SIDE

Remove the ignition coil (page 8-4).

Measure the resistance of the primary coil by attaching the ohmmeter leads to the ignition coil wire (Black) terminal (C10) and the iron core (1).

Resistance: 0.6 – 0.9 Ω

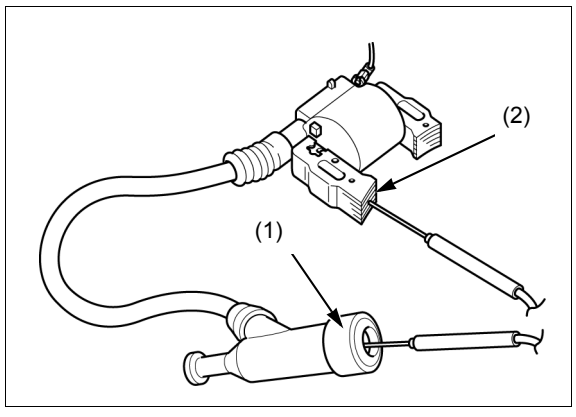


SECONDARY SIDE

Remove the ignition coil (page 8-4).

Measure the resistance of the secondary coil by attaching the ohmmeter leads to the inside of the spark plug cap (1) and the iron core (2).

Resistance: 13.1 – 19.4 kΩ



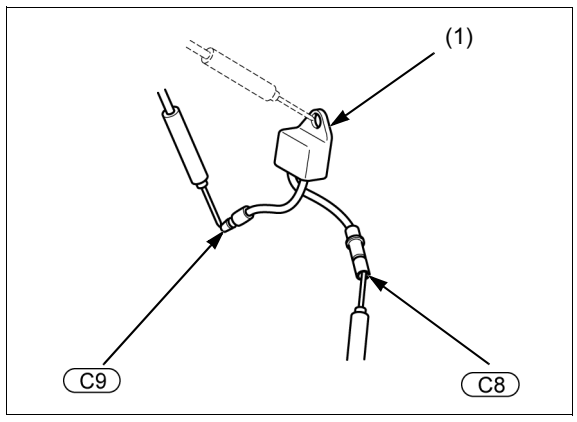
OIL ALERT UNIT INSPECTION

Remove the oil alert unit (page 8-5).

Measure the resistance between the wire connector terminals of the oil alert unit and oil alert unit body.

		(+) probe		
		C9 (Black)	C8 (Yellow)	Ground (1)
(–) probe	C9 (Black)	–	500 Ω – 10 kΩ	∞
	C8 (Yellow)	∞	–	∞
	Ground (1)	∞	∞	–

- Use a tester that is equivalent to or higher than performance specified:
  Internal resistance: 20 Ω VDC, 9 Ω/VAC
- Use a R x 1 scale of a commercially available multimeter, and meter shows current flow from negative (–) to positive (+). The meter shows current flowing one way and not the other the diode is good.



OIL LEVEL SWITCH INSPECTION

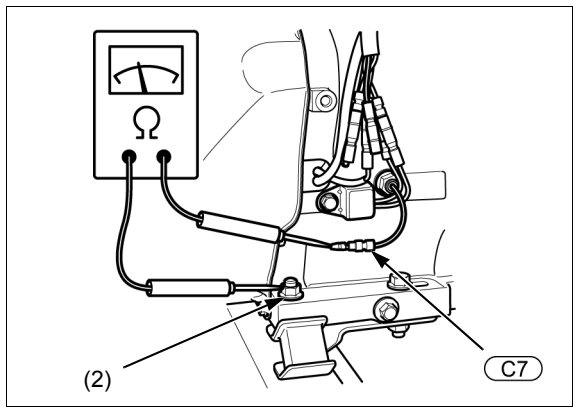
SYSTEM INSPECTION

Remove the harness clip base bolts (page 8-5).

Disconnect the oil level switch wire connector C7.

Check continuity between the oil level switch wire connector C7 switch side (Yellow) terminal and engine ground (2).
There should be no continuity when the engine is full of oil.

If the correct continuity is not obtained, inspect the oil level switch.

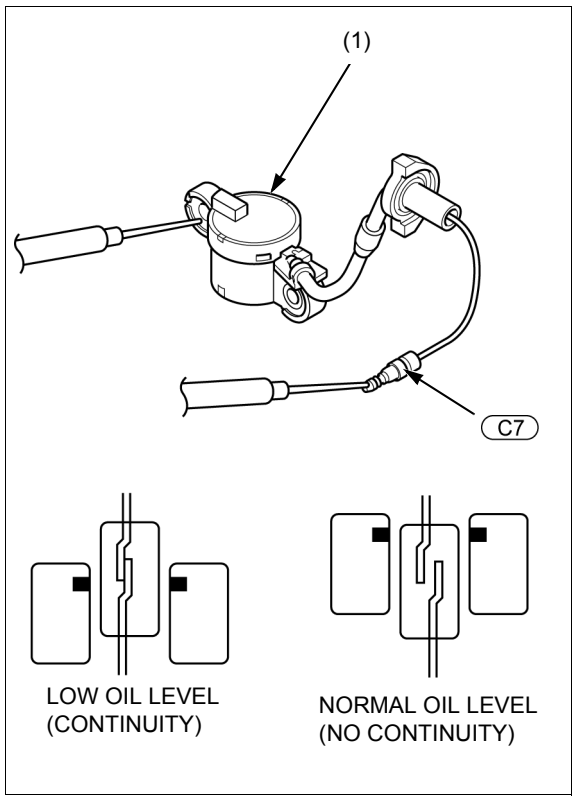


SWITCH INSPECTION

Remove the oil level switch (page 14-4).

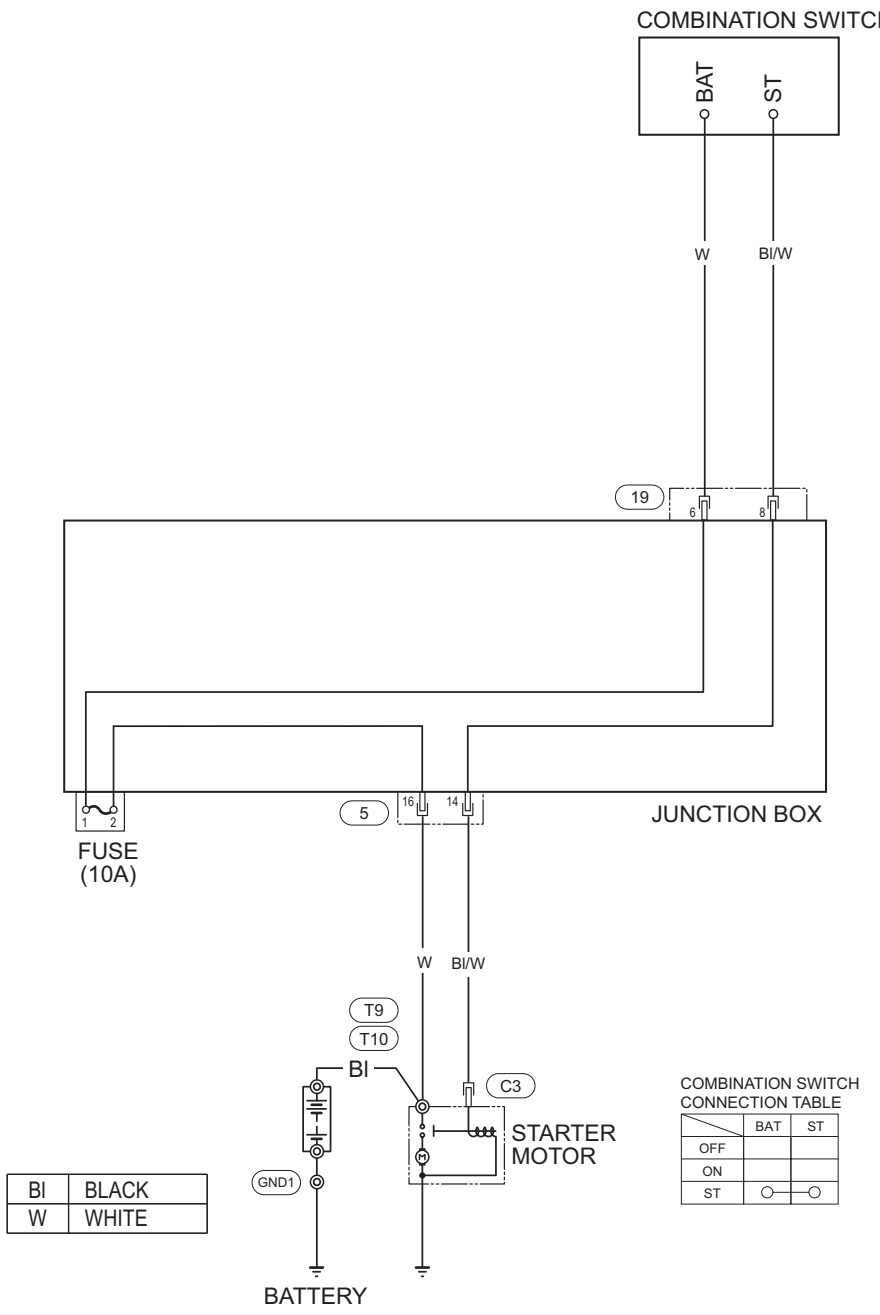
Check for continuity between the oil level switch (1) wire connector (C7) (Yellow) terminal and switch body with an ohmmeter.

Check the float by dipping the switch into a container of oil. The ohmmeter reading should go from continuity to no continuity as the switch is lowered into the oil.



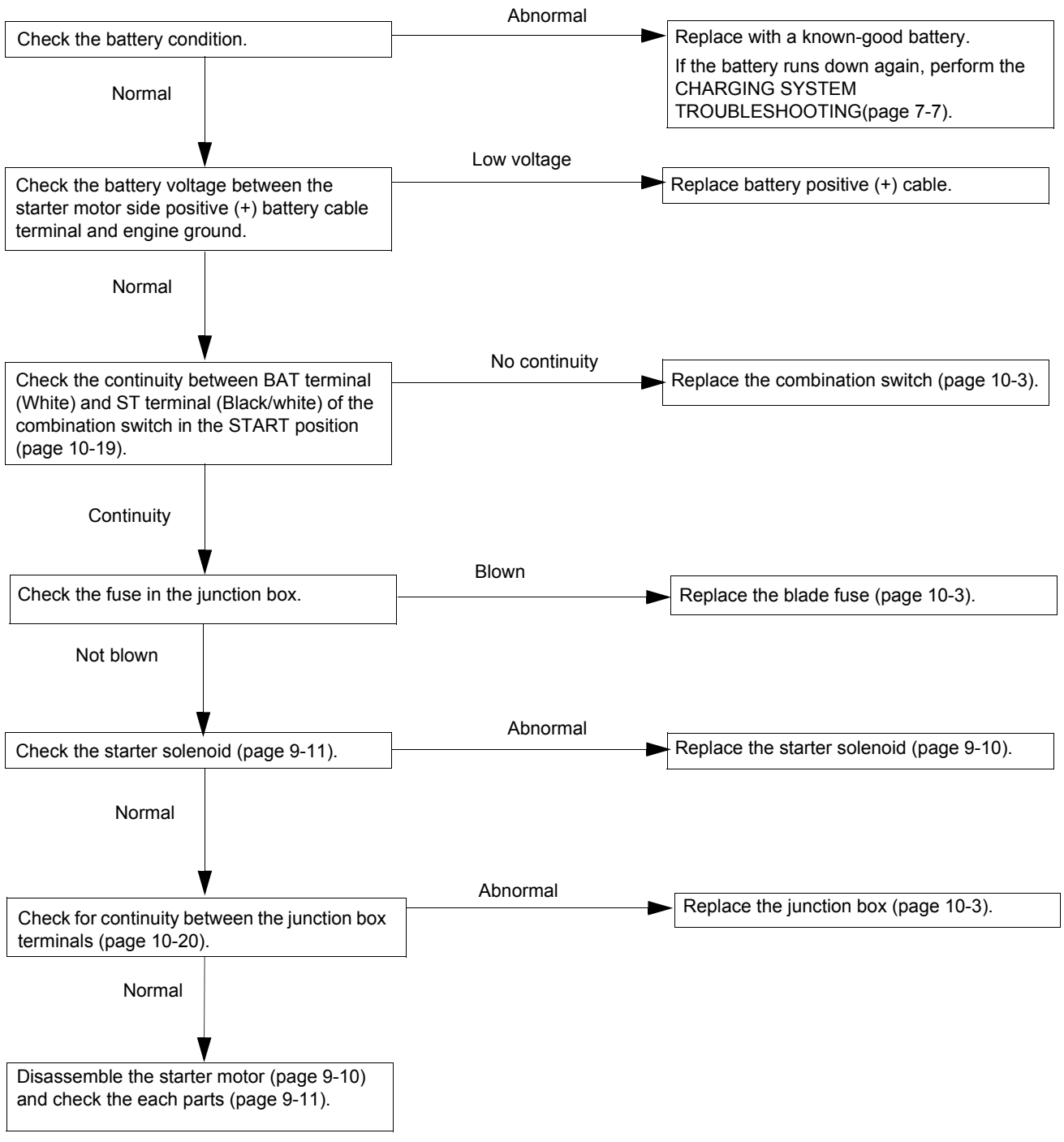
9. STARTING SYSTEM

STARTING SYSTEM DIAGRAM (CXS TYPE ONLY)



STARTING SYSTEM TROUBLESHOOTING (CXS TYPE ONLY)

STARTER MOTOR DOES NOT OPERATE

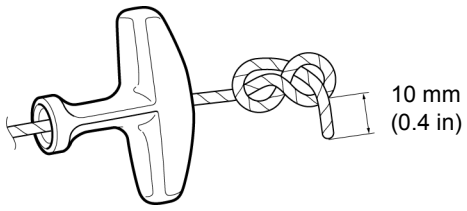


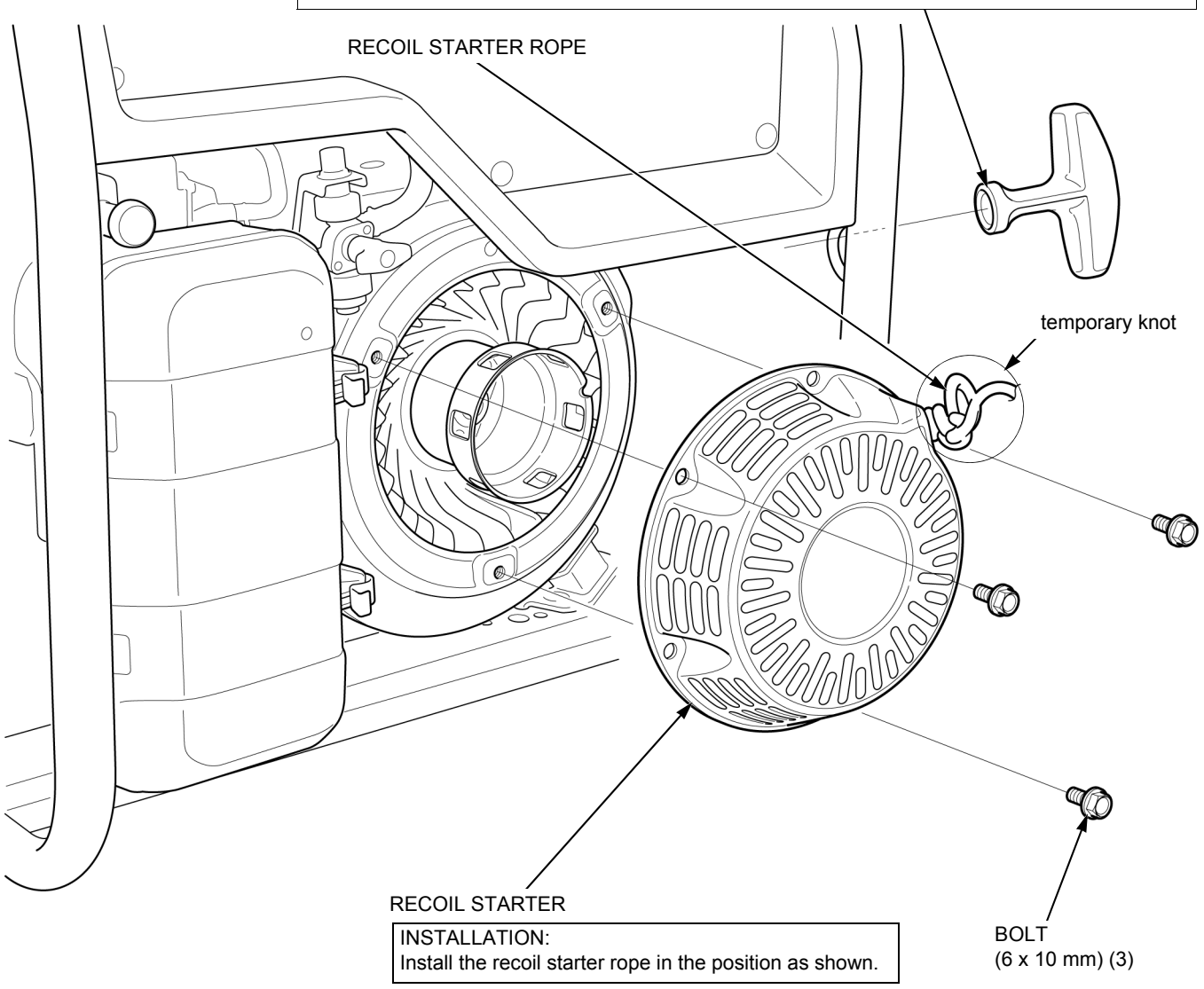
RECOIL STARTER REMOVAL/ INSTALLATION

RECOIL STARTER GRIP

REMOVAL:
Before removing the recoil starter grip, pull the recoil starter grip and tie a temporary knot in the middle of the recoil starter rope as shown.

INSTALLATION:
Tie a knot in the end of the starter rope as shown.





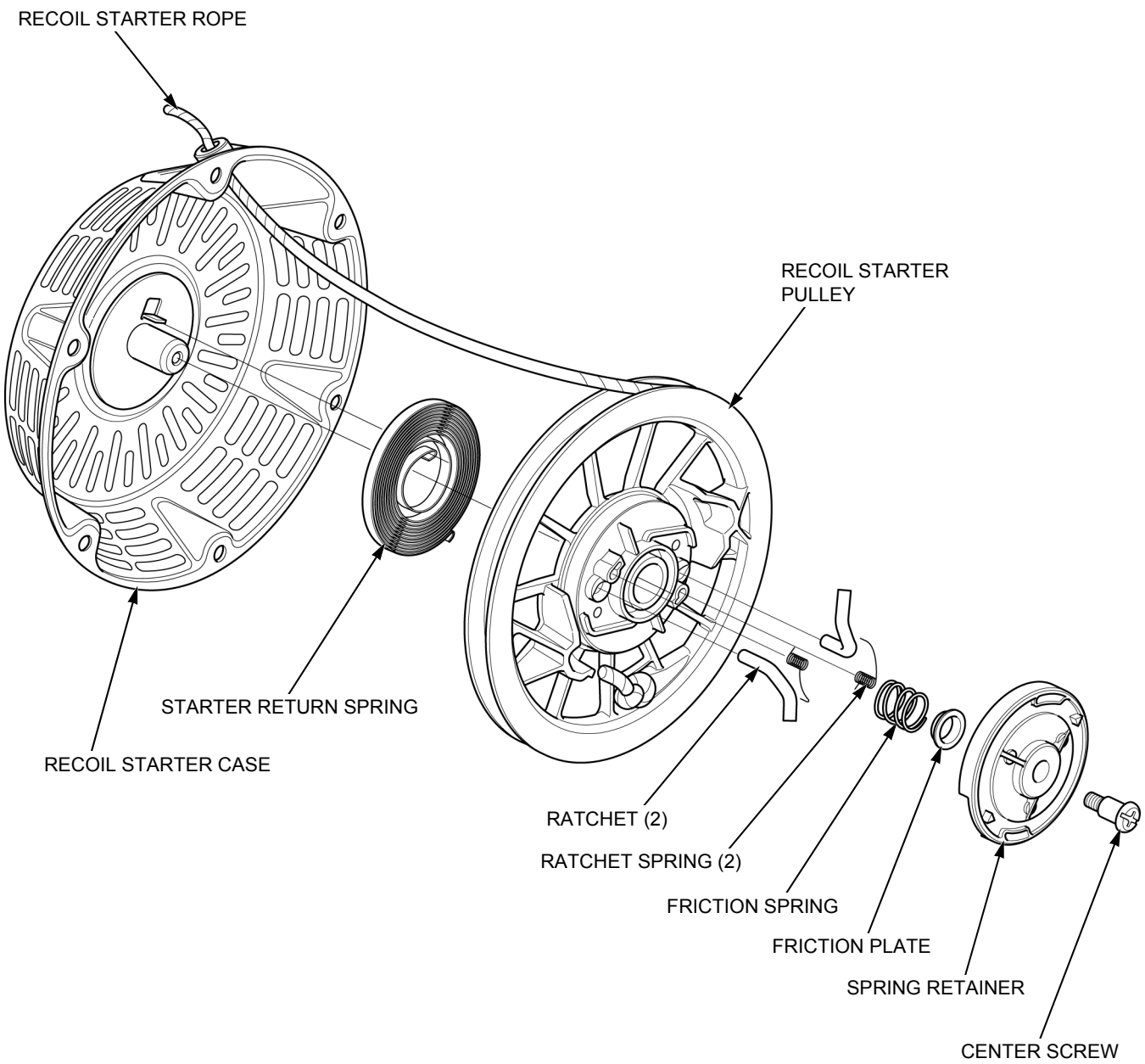
INSTALLATION:
Install the recoil starter rope in the position as shown.

RECOIL STARTER DISASSEMBLY

⚠ CAUTION

To prevent serious eye injury, always wear safety goggles or other eye protection when using compressed air.

Remove the recoil starter (page 9-4).

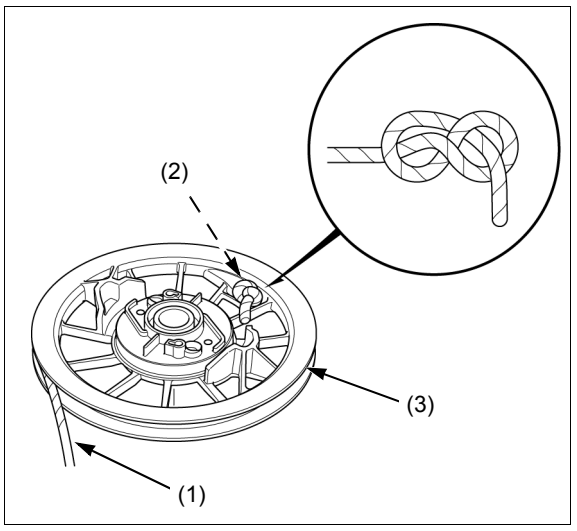


RECOIL STARTER ASSEMBLY

⚠CAUTION

To prevent serious eye injury, always wear safety goggles or other eye protection when using compressed air.

Pass the recoil starter rope (1) through the hole (2) of the recoil starter pulley (3), and then tie the rope as shown.

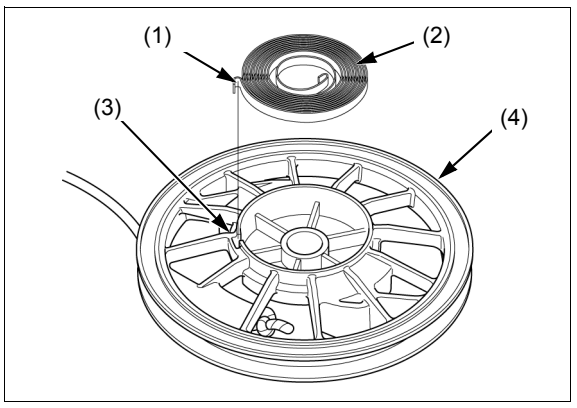


NOTICE

Before installing the recoil starter rope, check for fray or wear.

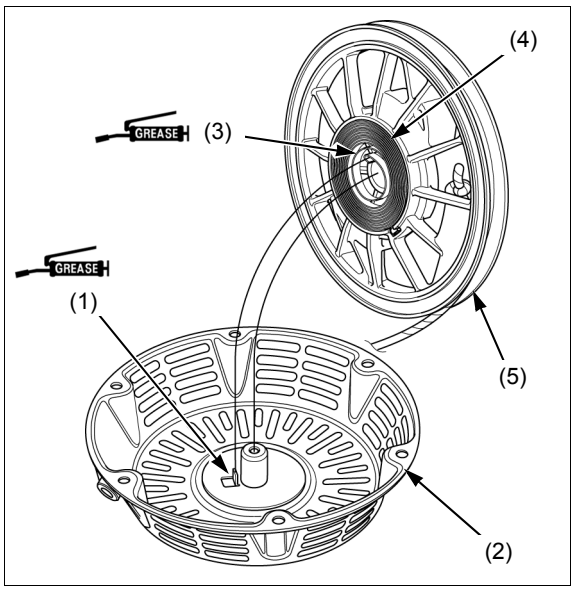
Wind the recoil starter rope onto the recoil starter pulley counterclockwise.

Hook the outer hook (1) of the starter return spring (2) to the groove (3) of the recoil starter pulley (4), and then install the starter return spring by winding it.



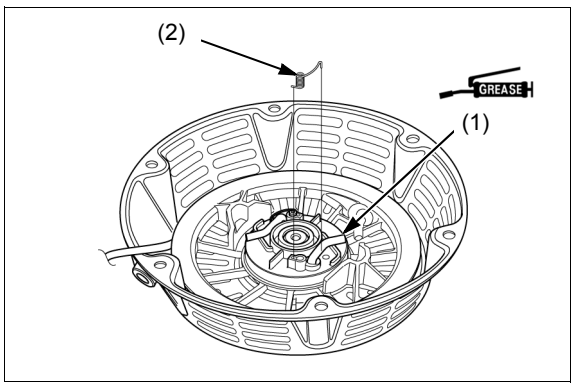
Apply grease to the projection (1) of the recoil starter case (2) and inner hook (3) of the recoil starter spring (4).

Set the recoil starter pulley (5) to the recoil starter case by aligning the inner hook of the starter return spring with the projection of the recoil starter case.



Apply grease to the two ratchets (1).

Install the two ratchets and the two ratchet springs (2) to the recoil starter pulley as shown.

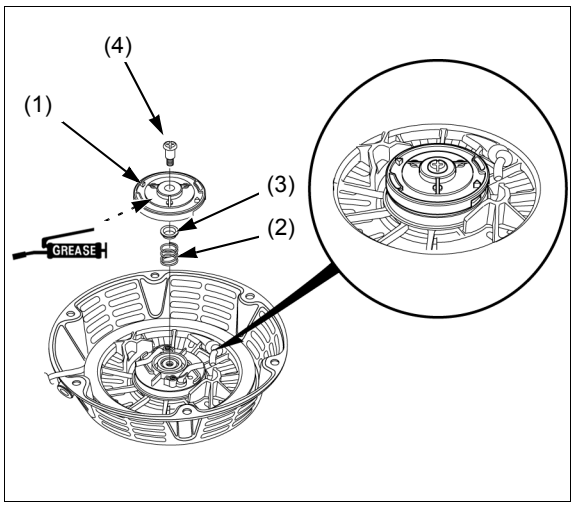


Apply grease to the inside of the spring retainer (1).

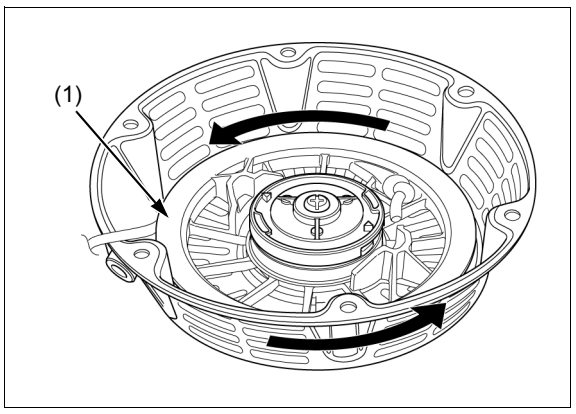
Set the friction spring (2) and friction plate (3), spring retainer to the recoil starter pulley in the direction as shown.

Hold the spring retainer and tighten the center screw to the specified torque.

TORQUE: 5.4 N·m (0.55 kgf·m, 4.0 lbf·ft)

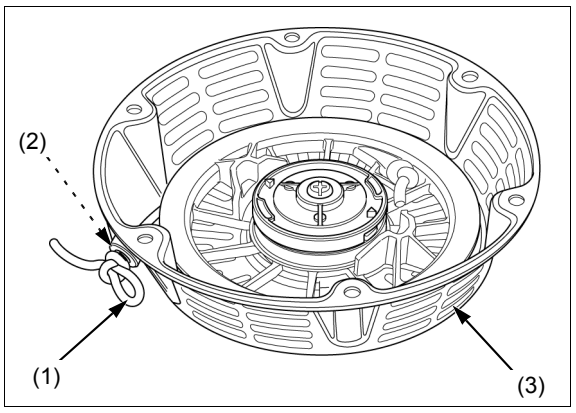


Turn the recoil starter pulley (1) more than 2 turns counterclockwise to preload the starter return spring. Be sure to hold the recoil starter pulley.



Pass the recoil starter rope (1) through hole (2) of the recoil starter case (3), and tie a temporary knot in the middle of the recoil starter rope as shown.

Check the recoil starter operation (page 9-8).

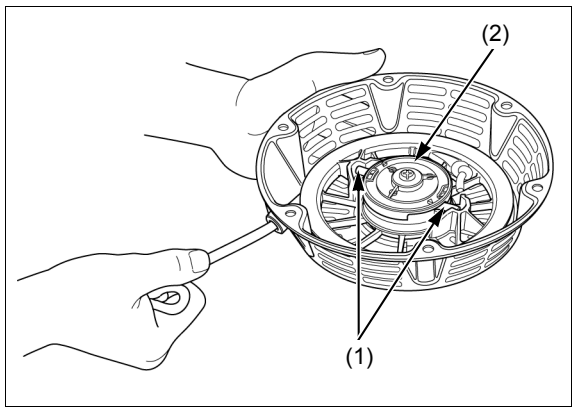


RECOIL STARTER INSPECTION

RECOIL STARTER OPERATION

Remove the recoil starter (page 9-4).

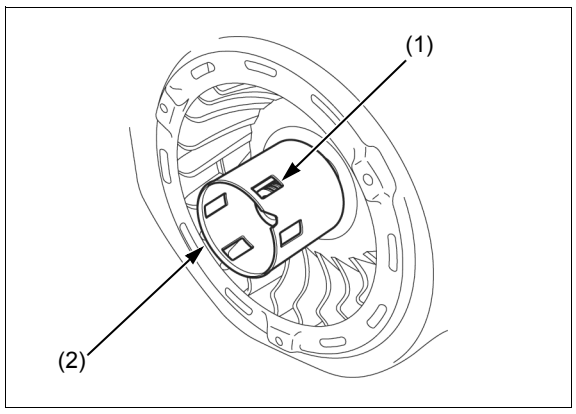
Pull the recoil starter rope several times to inspect that the ratchets (1) are operated properly (the ratchet ends come out from the spring retainer (2).



STARTER PULLEY

Remove the recoil starter (page 9-4).

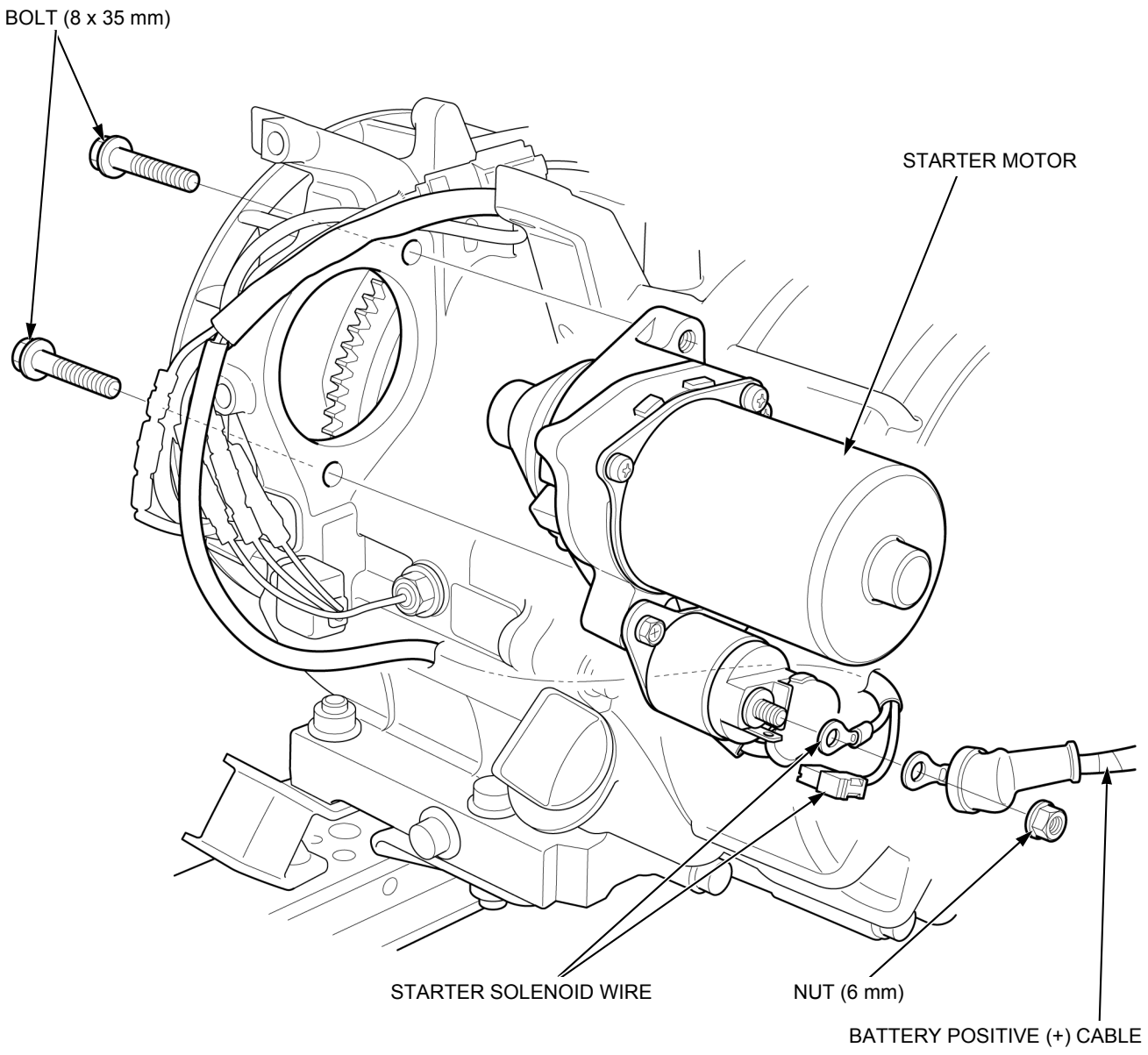
Inspect the square holes (1) of the starter pulley (2) for deformation.



STARTER MOTOR REMOVAL/INSTALLATION (CXS TYPE ONLY)

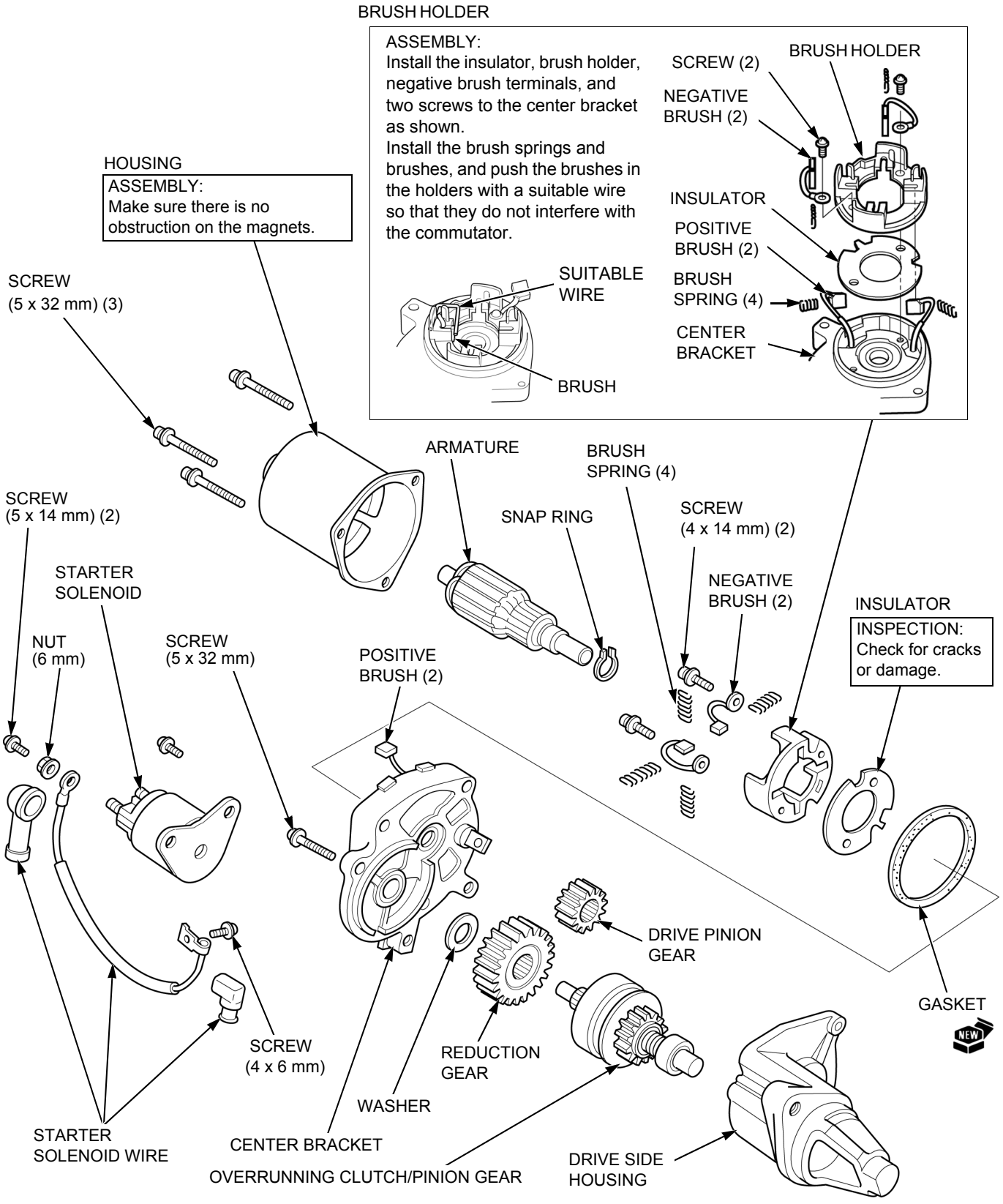
Disconnect the starter motor wires and battery (+) cable from the starter motor.

Remove the fan cover (page 7-9).



STARTER MOTOR DISASSEMBLY/ASSEMBLY (CXS TYPE ONLY)

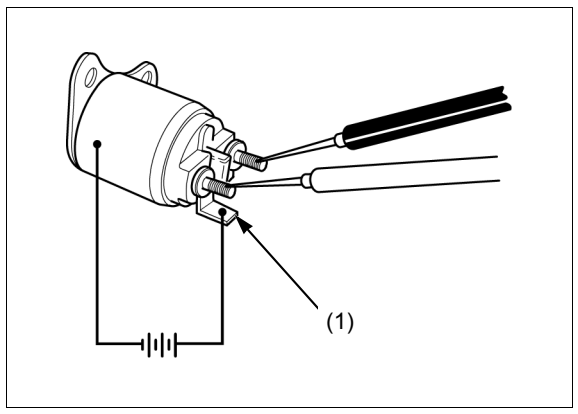
Remove the starter motor (page 9-9).



STARTER MOTOR INSPECTION (CXS TYPE ONLY)

STARTER SOLENOID

Connect the positive (+) lead of a 12V battery to the solenoid terminal (1) and the negative (-) lead to the solenoid body. Measure the resistance between the battery and starter motor terminals as shown. Continuity should exist when the battery is connected and not exist when the battery is disconnected.



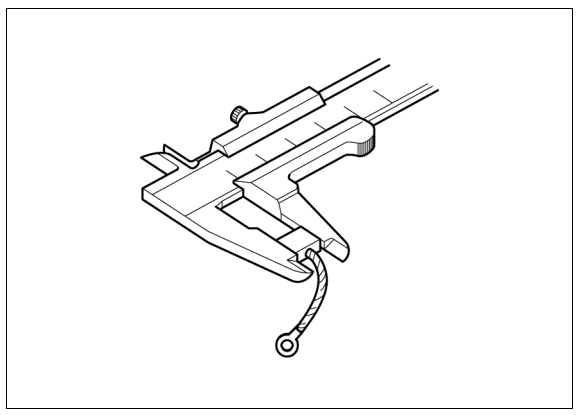
BRUSH LENGTH

Measure the brush length.

If the negative brush length is less than the service limit, replace the brush and brush holder.

If the positive brush length is less than the service limit, replace the center bracket and brush holder.

STANDARD: 7.0 mm (0.28 in)
SERVICE LIMIT: 3.5 mm (0.14 in)



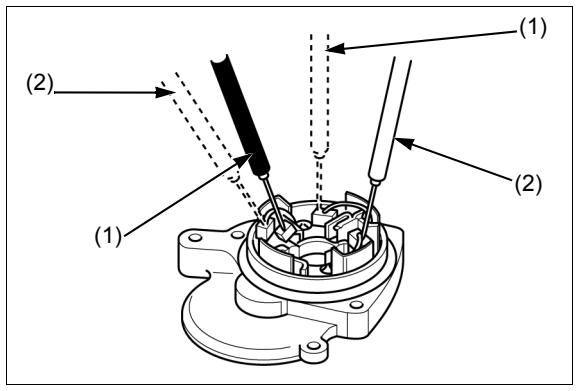
BRUSH CONTINUITY CHECK

Check for continuity between the positive (+) brushes (1) and negative (-) brushes (2).

There should be continuity between both the positive brushes.
There should be continuity between both the negative brushes.
There should be no continuity from either positive brush to either negative brush.

If the correct continuity of the positive (+) brushes is not obtained, replace the center bracket (page 9-10).

If the correct continuity of the negative (-) brushes is not obtain, replace the negative (-) brushes.

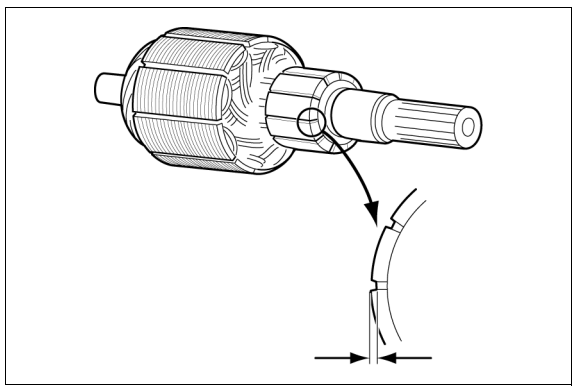


ARMATURE MICA DEPTH

Visually inspect the commutator surface for dust, rust, or other damage. If necessary, wipe it with a clean lint-free cloth. If rusted or damaged, dress with a fine emery cloth.

When the mica is clogged, or its depth is smaller than the service limit value, recut the grooves using a hacksaw blade or a small file.

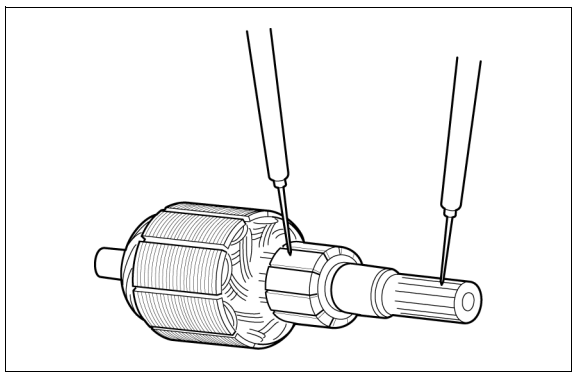
STANDARD: 1.0 mm (0.04 in)
SERVICE LIMIT: 0.2 mm (0.01 in)



ARMATURE CONTINUITY CHECK - COMMUTATOR TO SHAFT

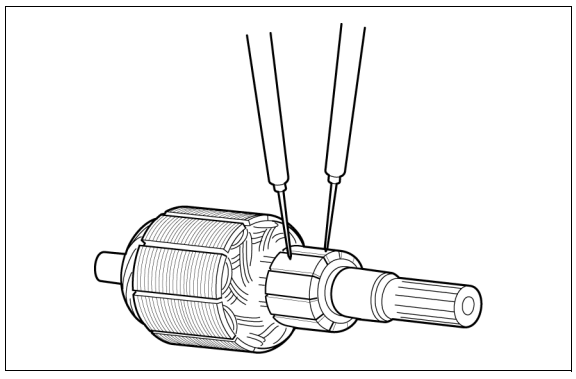
Check for continuity between the commutator and the armature shaft.

Replace the armature if continuity exists between any of the commutator segments and the armature shaft (page 9-10).



ARMATURE CONTINUITY CHECK - COMMUTATOR SEGMENTS

Check for continuity between segments. If an open circuit (no continuity) exists between any two segments, replace the armature (page 9-10).



OVERRUNNING CLUTCH

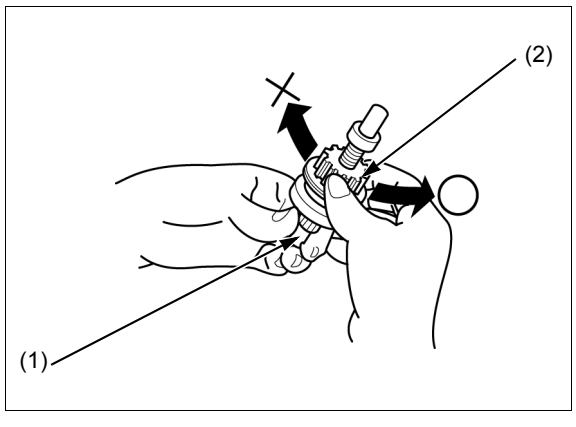
Check the pinion gear shaft (1) for smooth axial movement.

Apply oil or replace the overrunning clutch if necessary.

Check the pinion gear (2) operation by holding the pinion gear shaft and turning the pinion gear. The pinion gear should turn counterclockwise freely and should not turn clockwise.

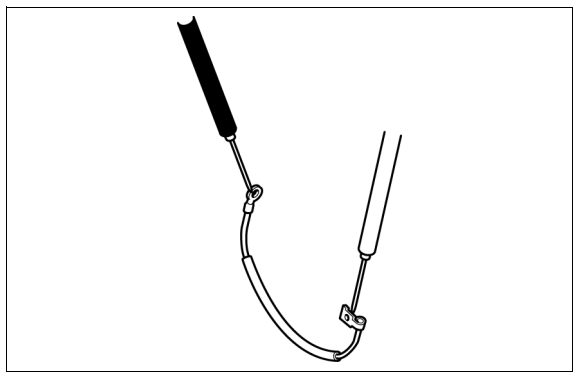
Check the pinion gear for wear or damage, and replace the overrunning clutch if necessary.

If the pinion gear is worn or damaged, the flywheel ring gear must be inspected.



STARTER SOLENOID WIRE

Check the starter solenoid wire for continuity.



MEMO

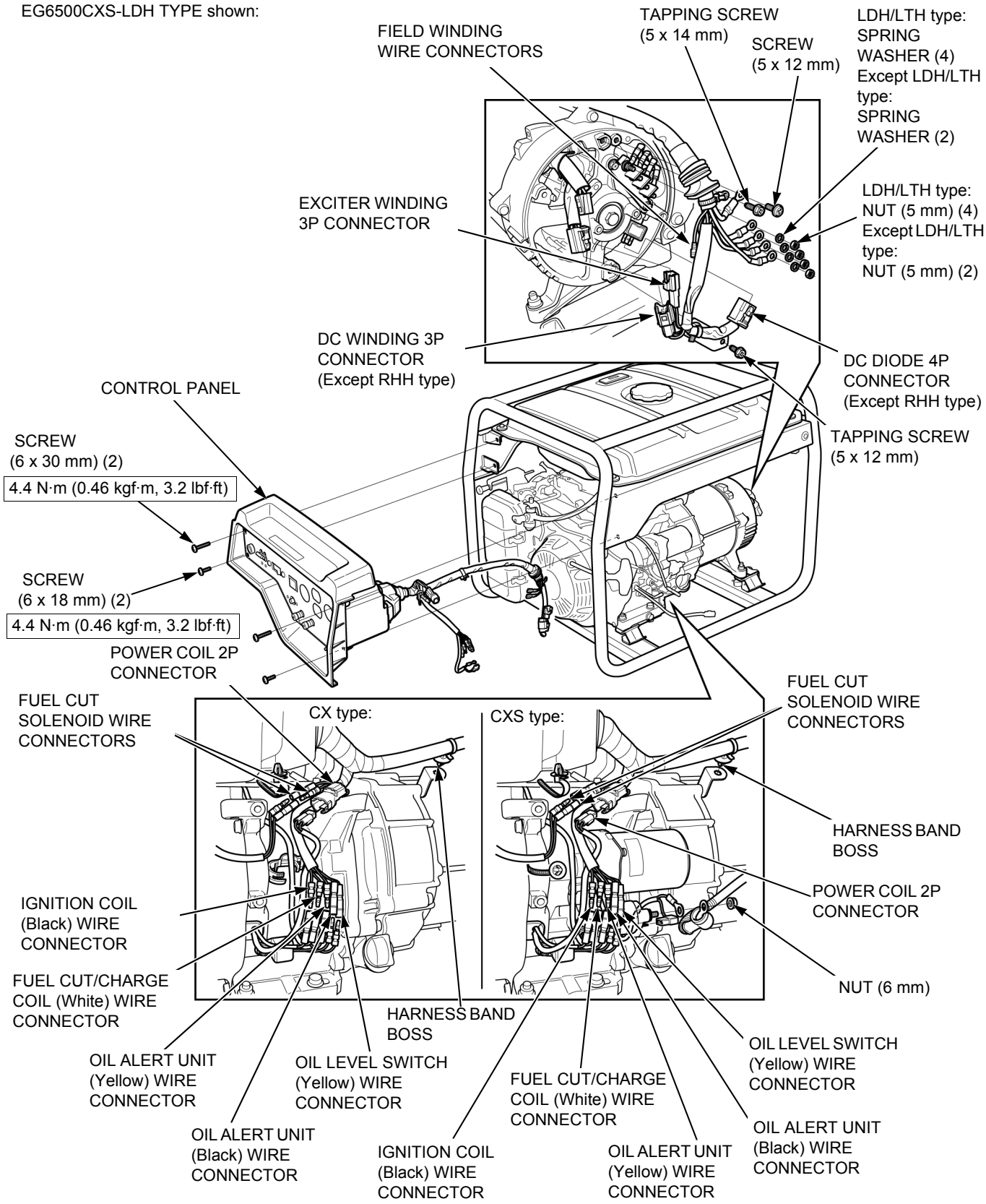
10. OTHER ELECTRICAL

CONTROL PANEL REMOVAL/INSTALLATION

Remove the following:

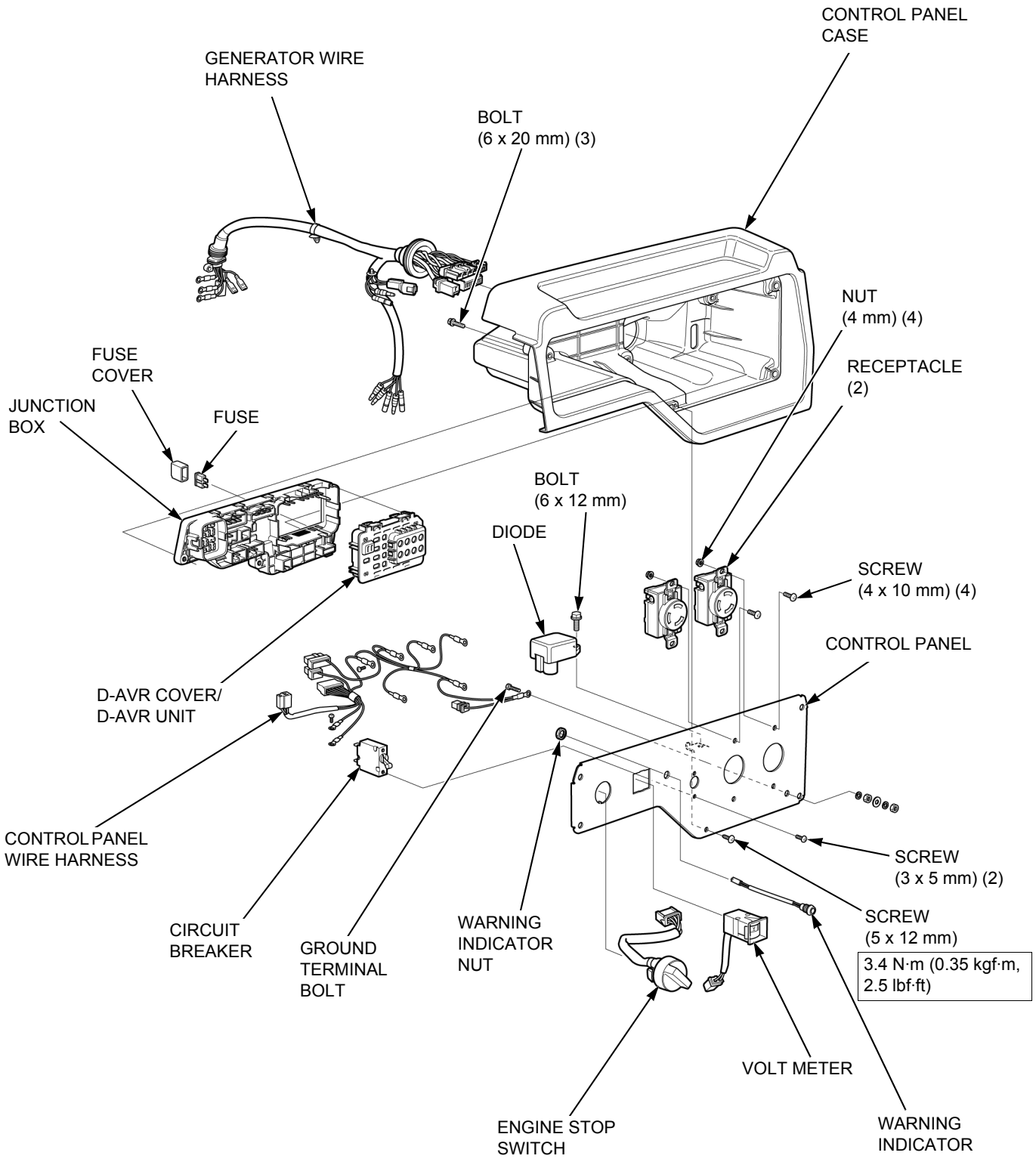
- Harness clip base (page 8-5)
- Generator end cover (page 7-15)

EG6500CXS-LDH TYPE shown:

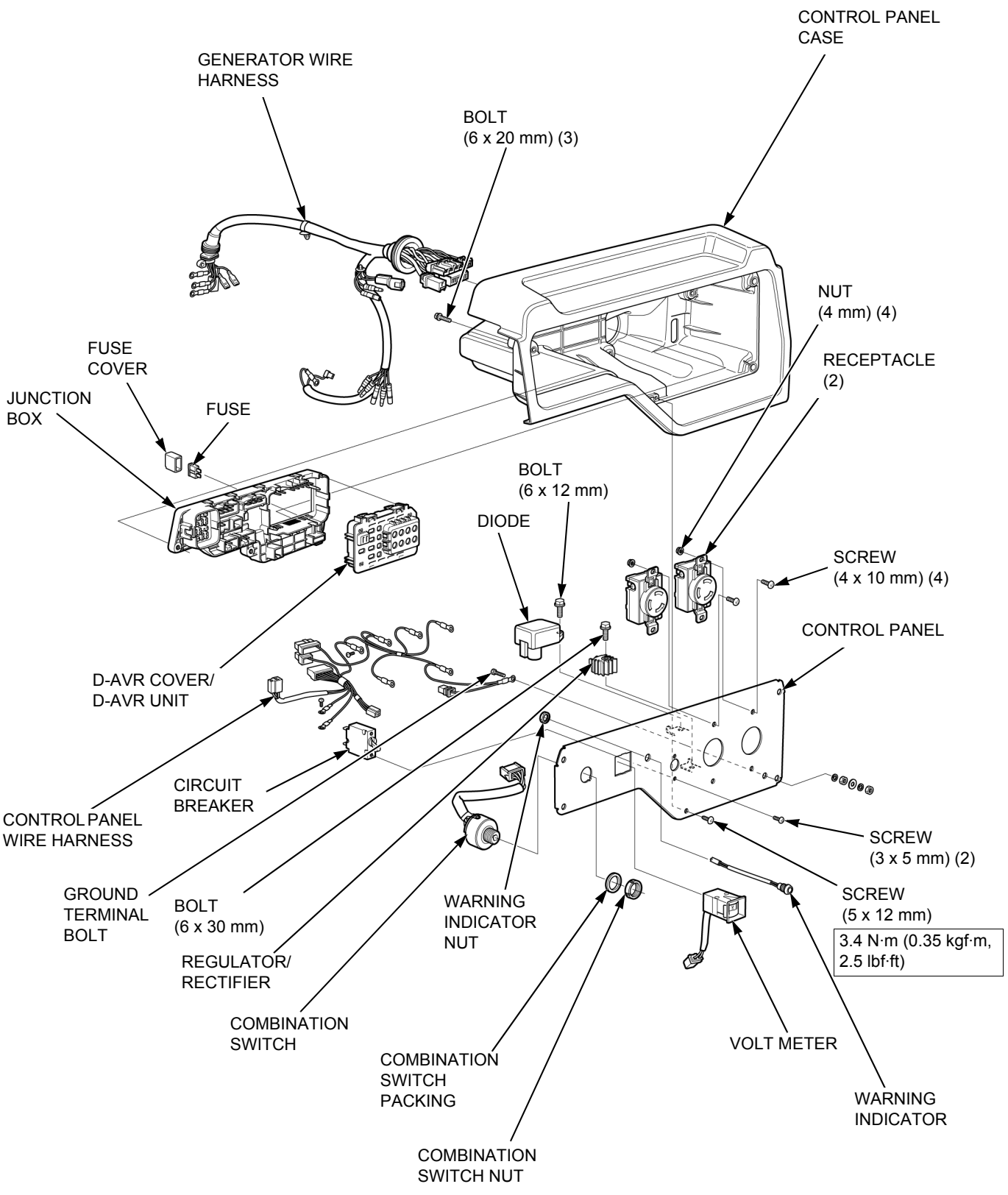


CONTROL PANEL DISASSEMBLY/ASSEMBLY

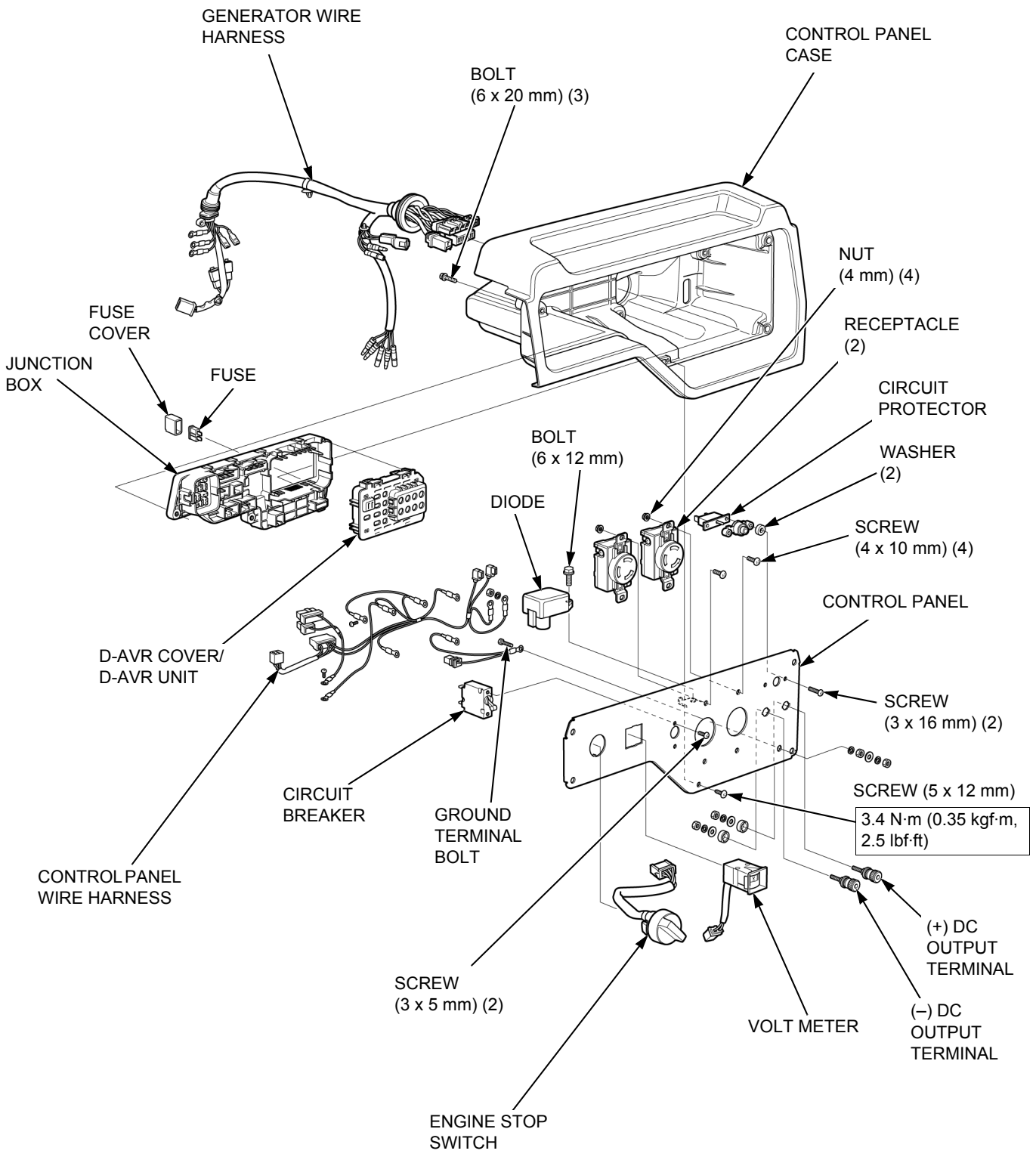
CX-RHH type



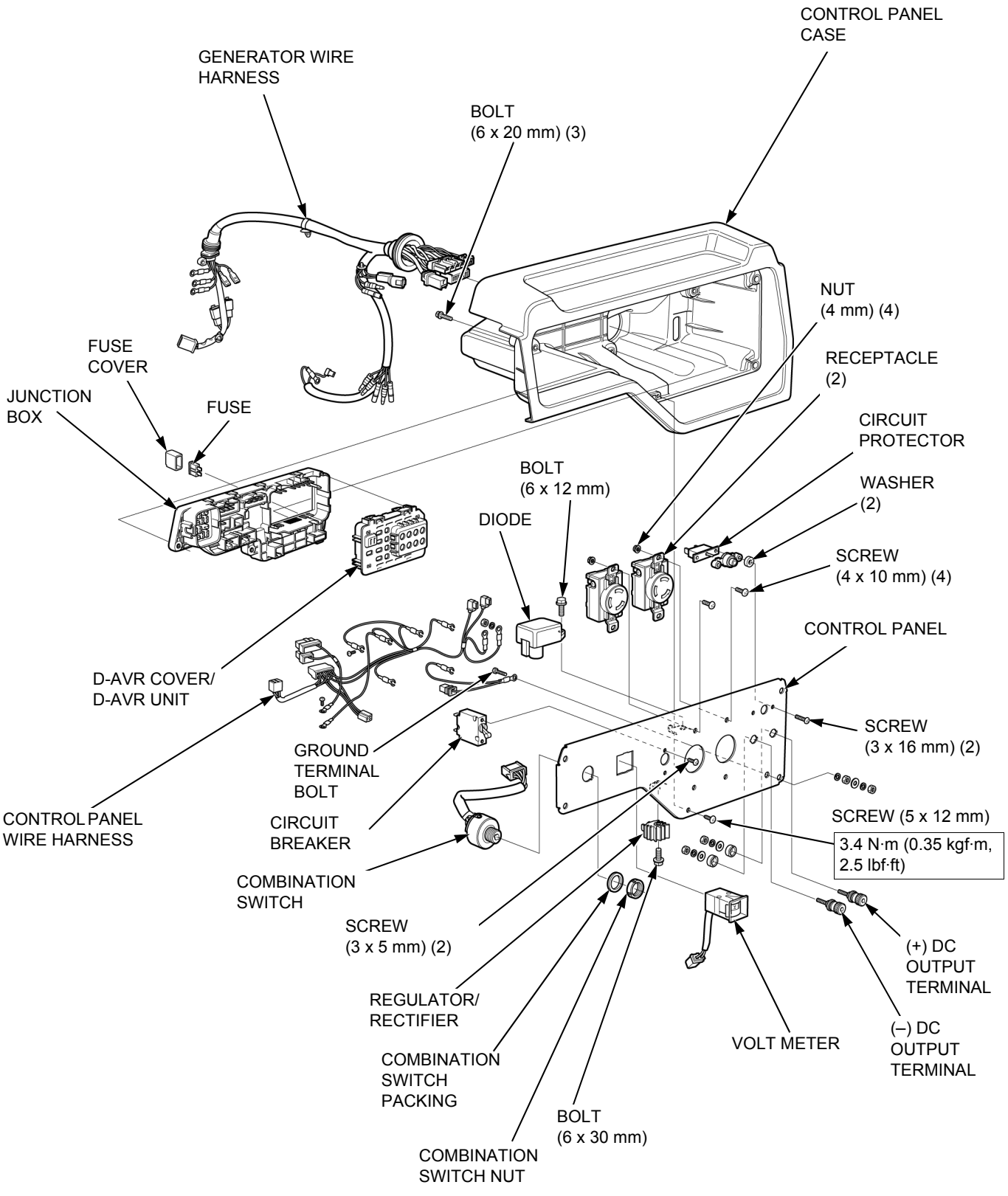
CXS-RHH type



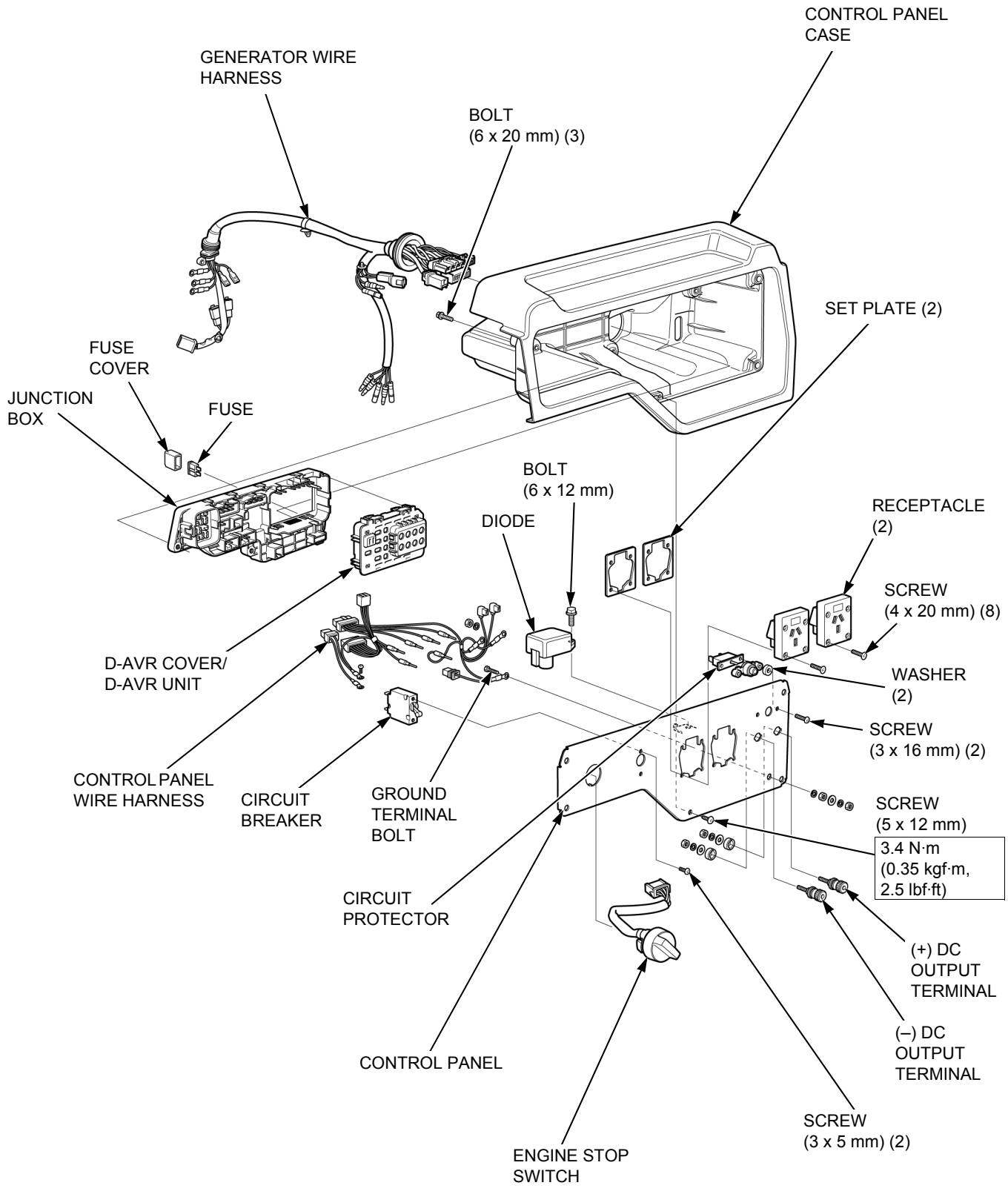
CX-RH, CX-KH, CX-SH type



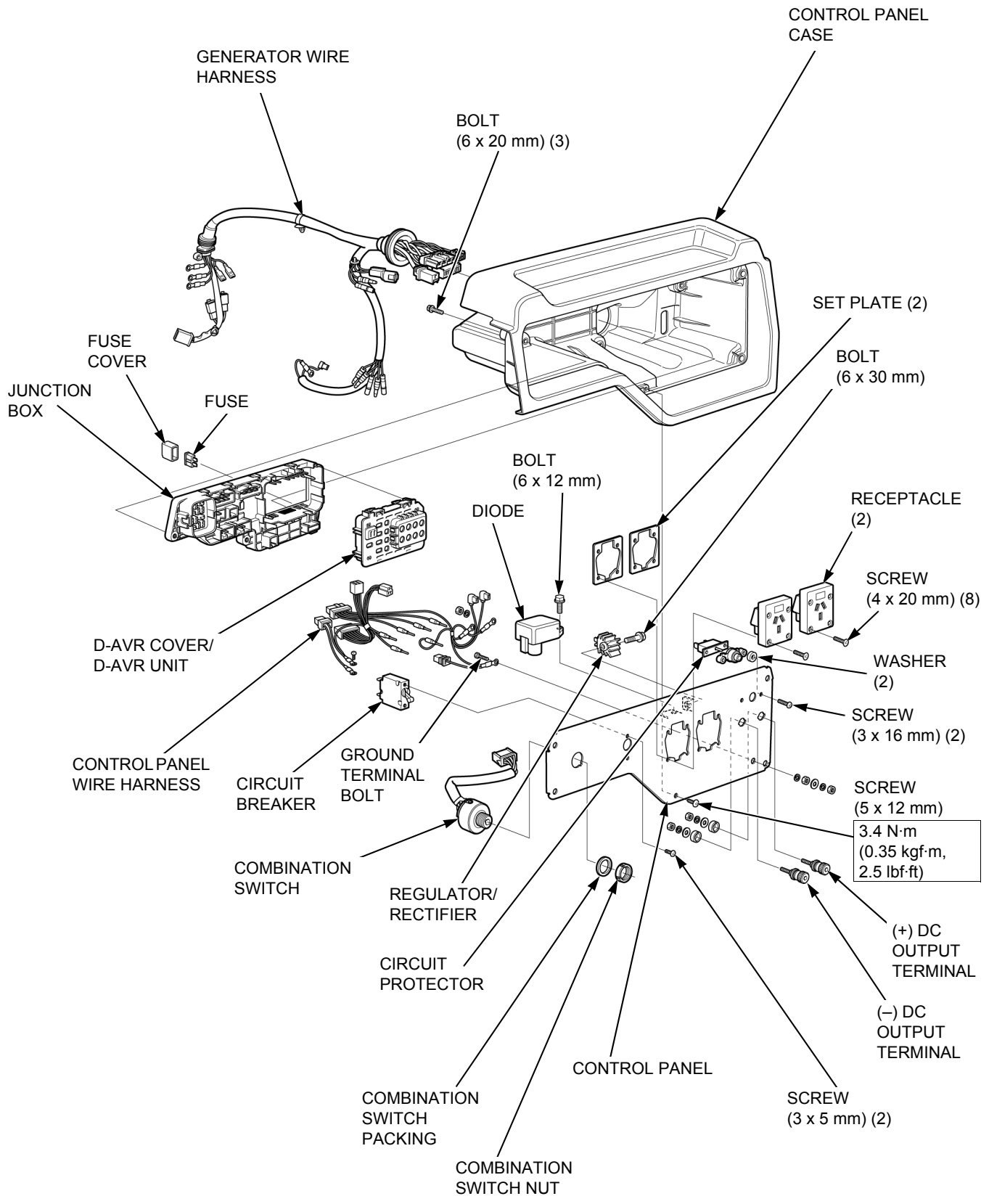
CXS-RH, CXS-KH, CXS-SH type



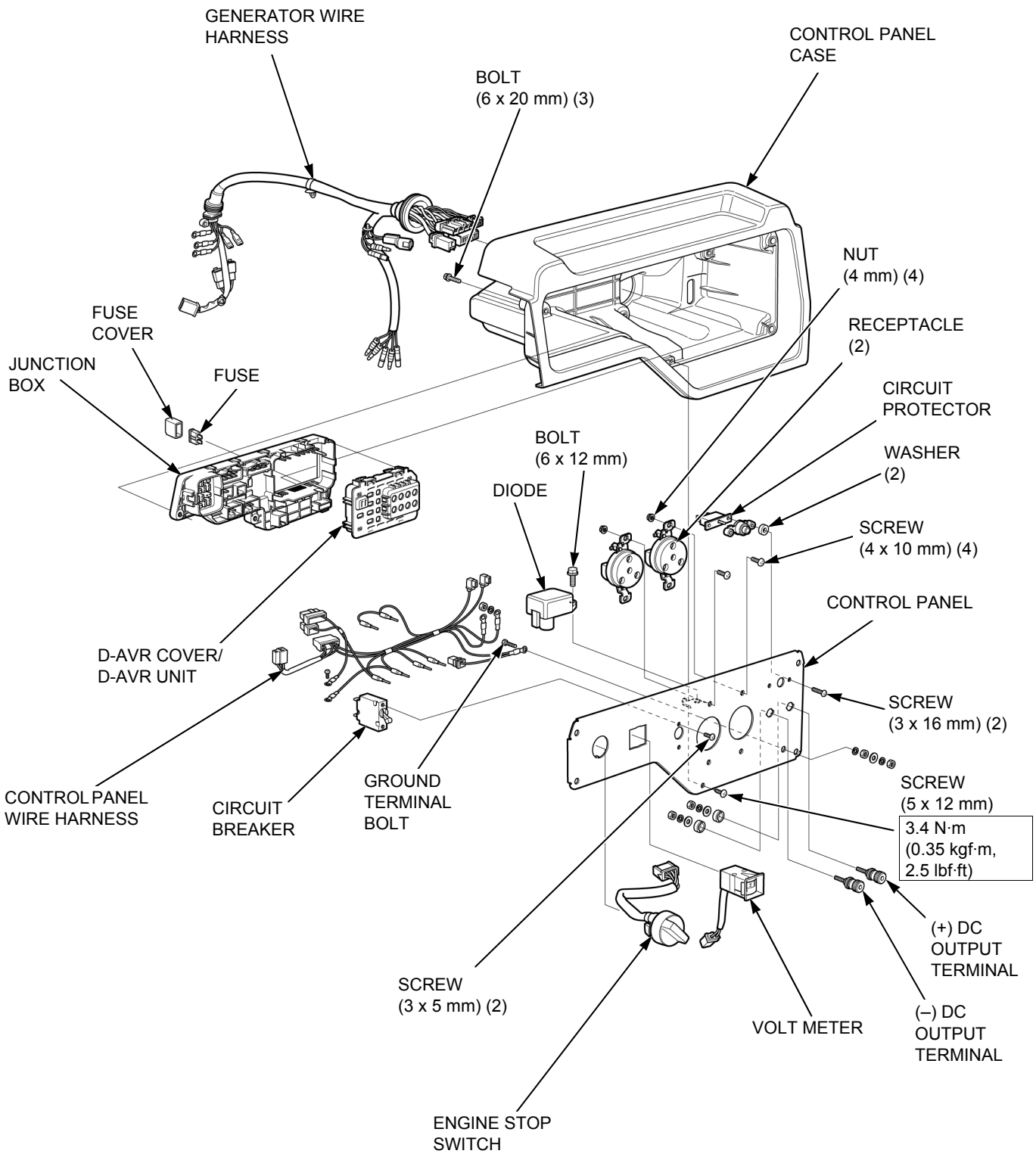
CX-UH type



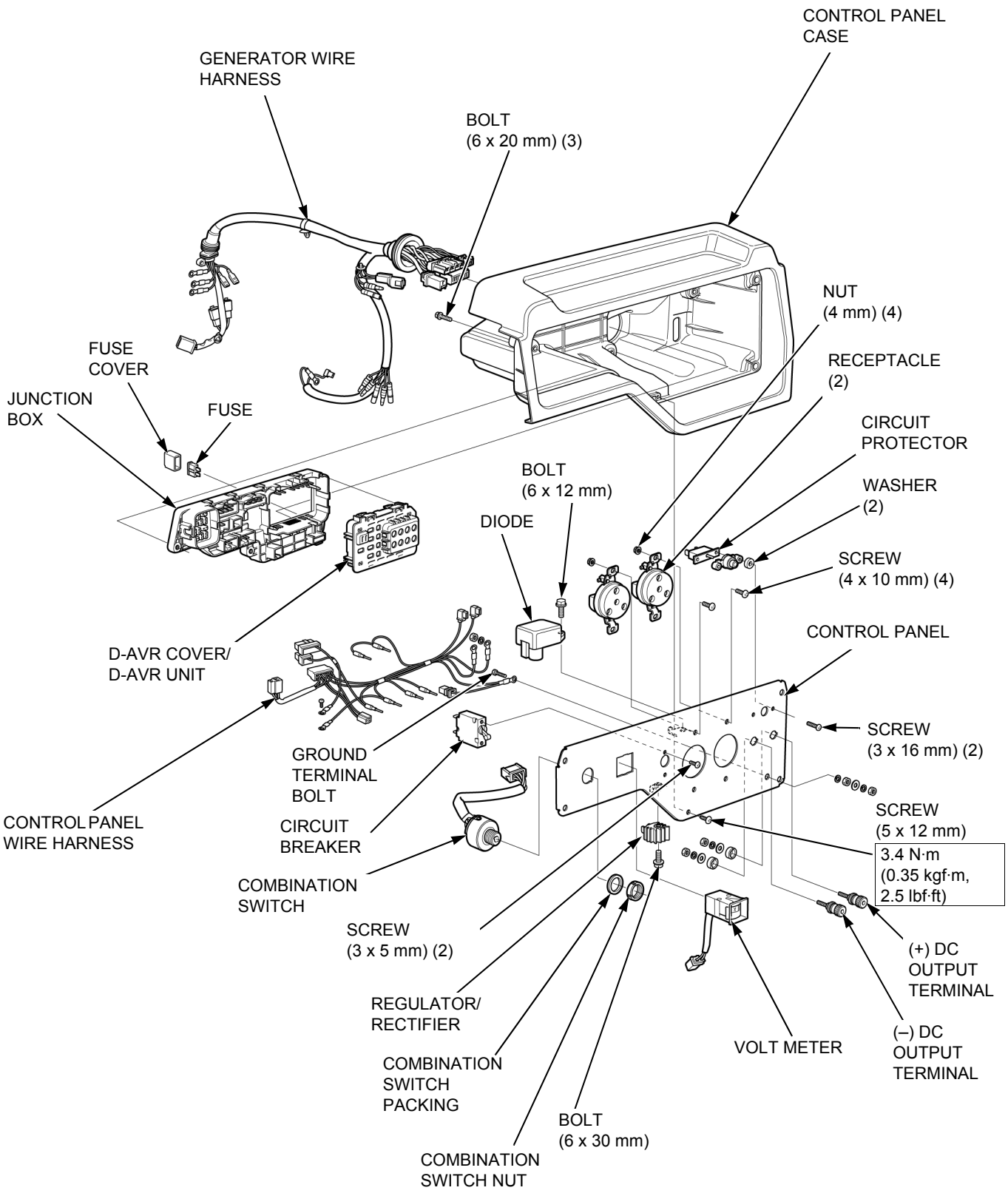
CXS-UH type



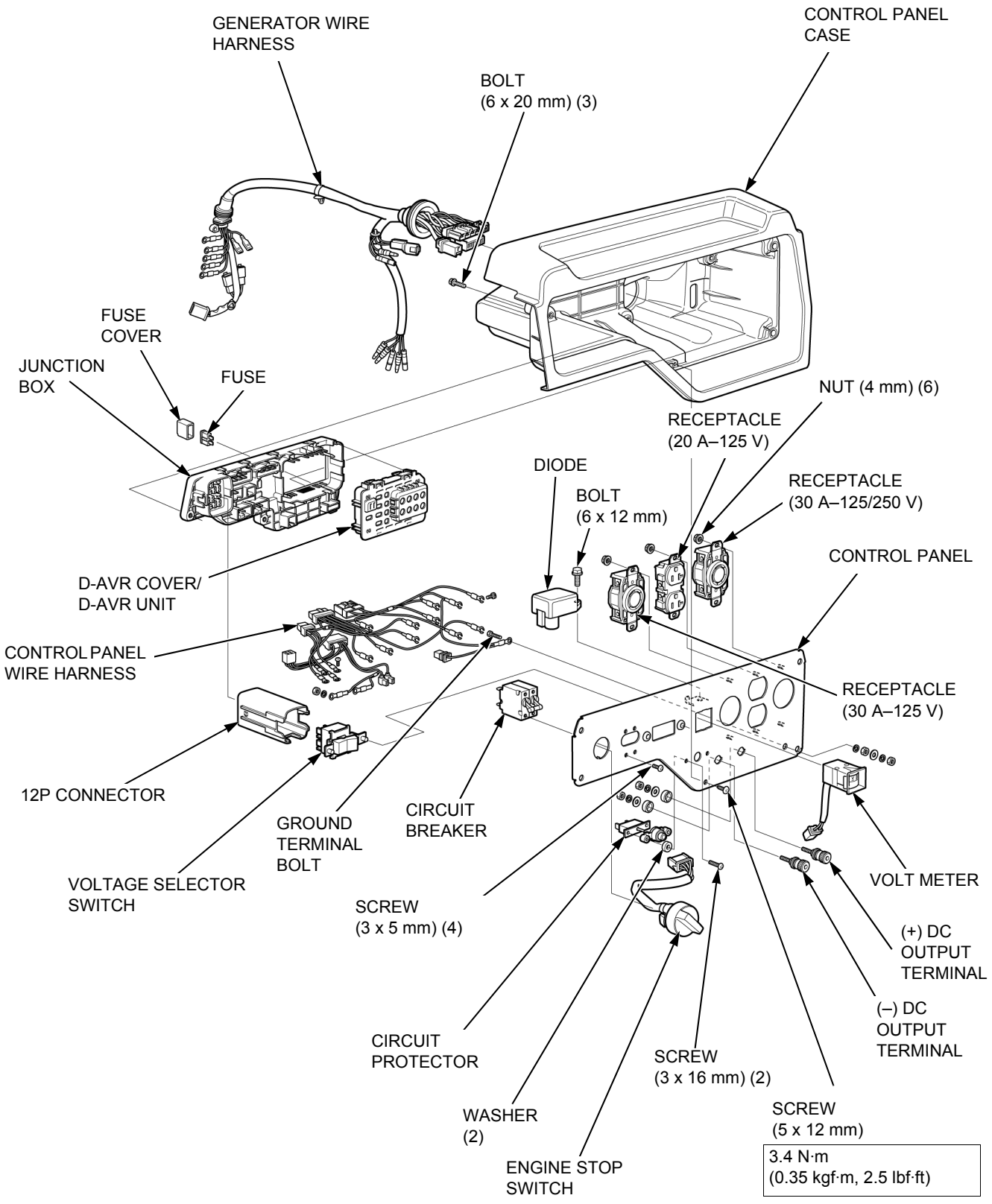
CX-MH type



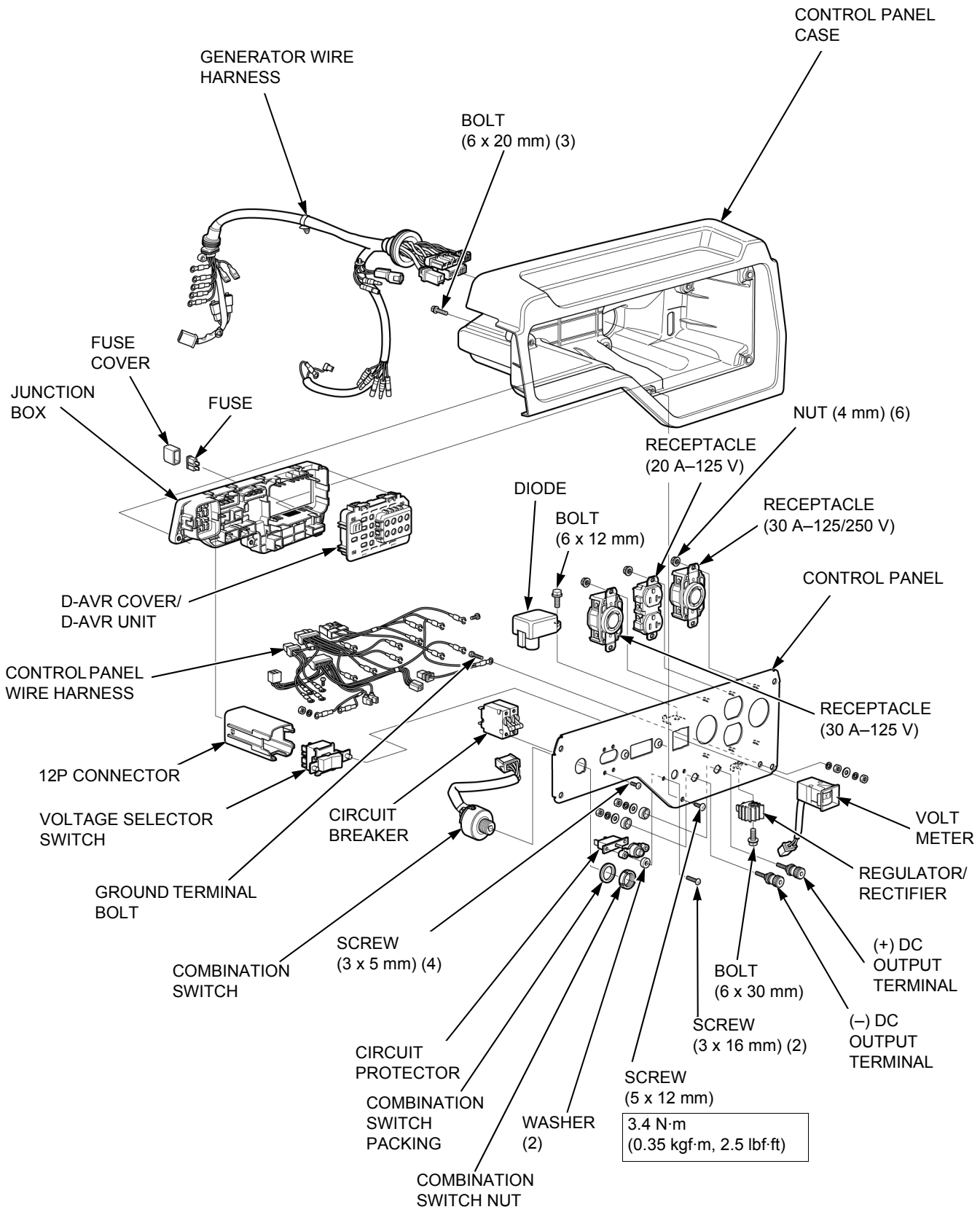
CXS-MH type



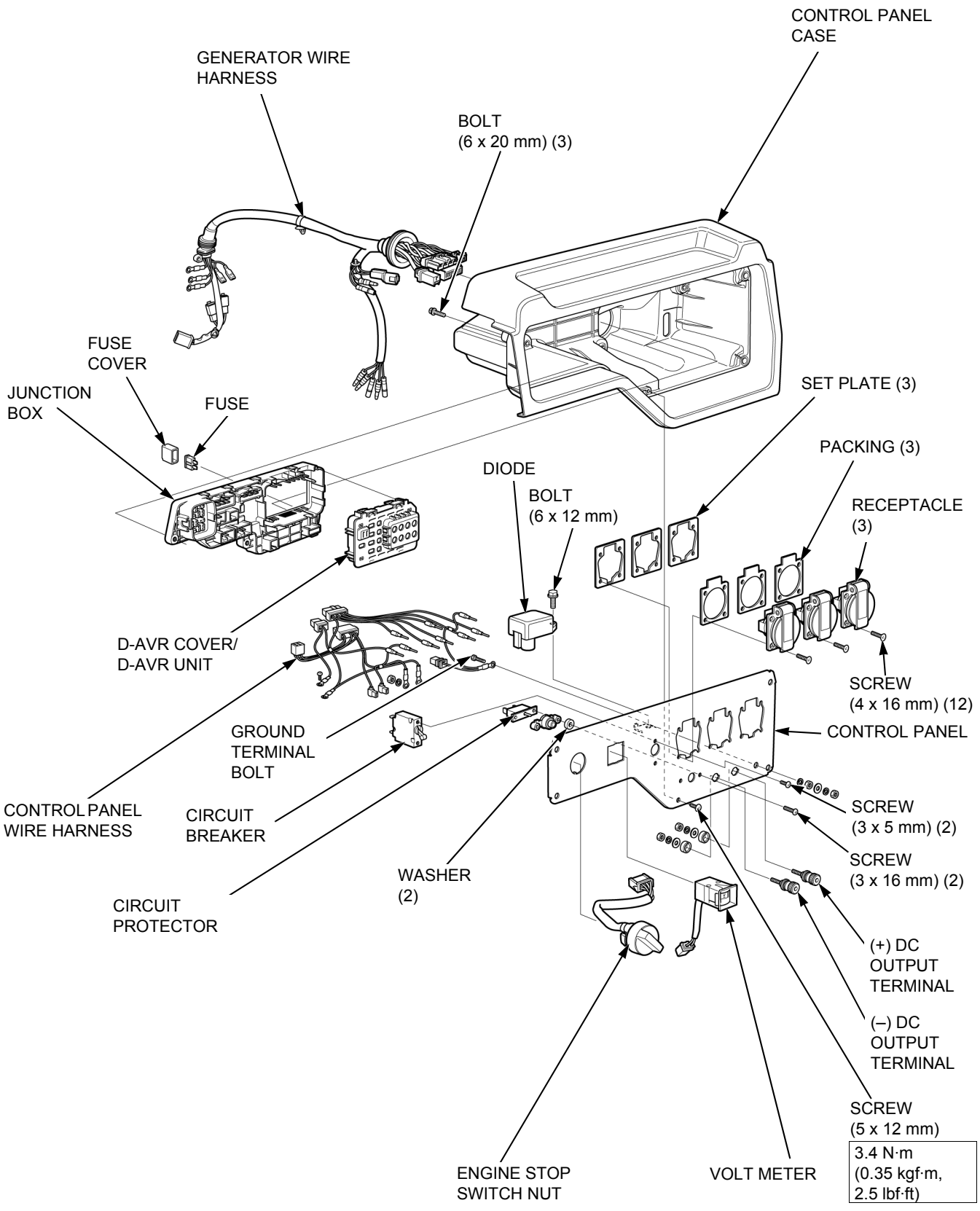
CX-LDH, CX-LTH type



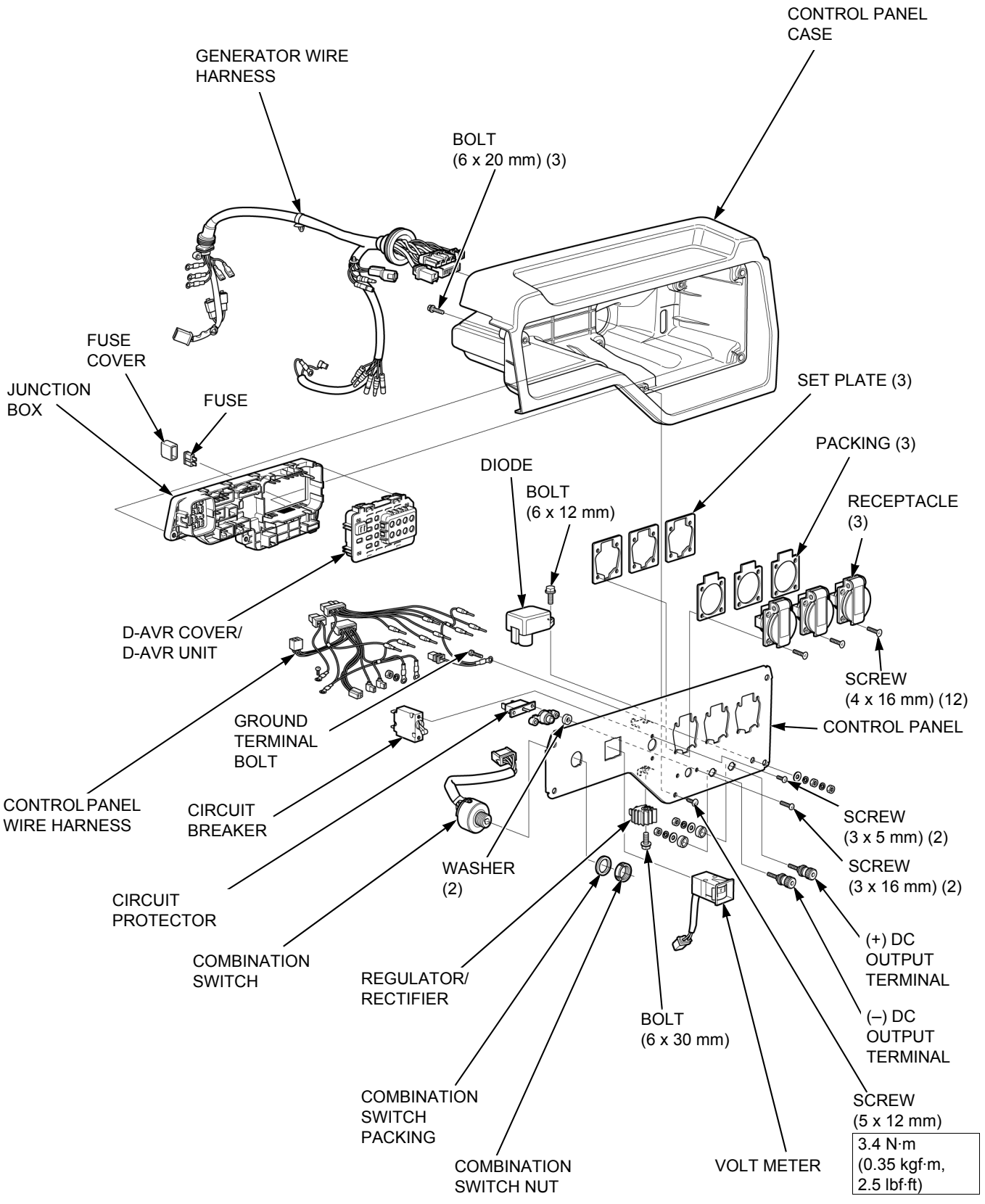
CXS-LDH, CXS-LTH type



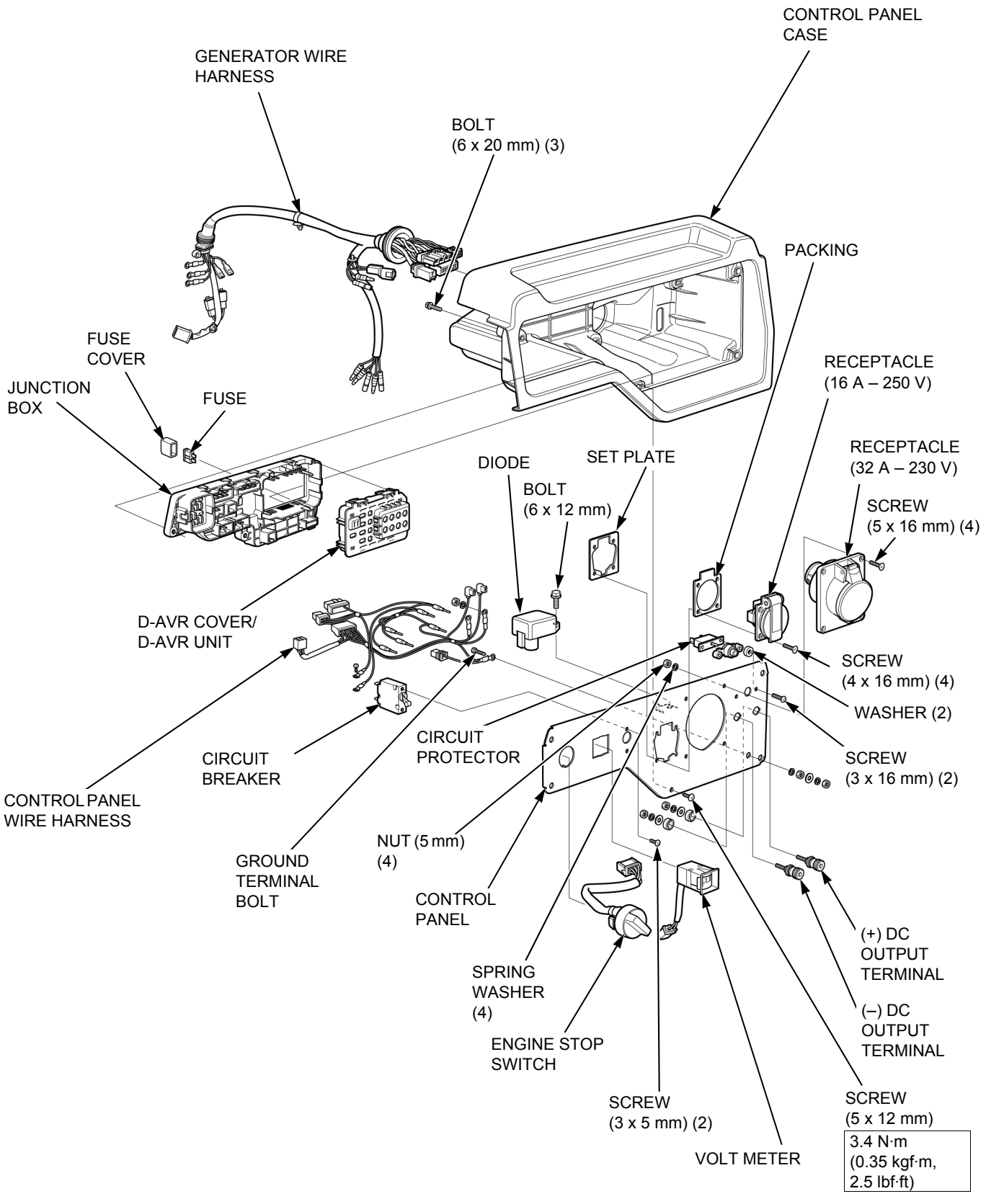
CX-SKH type



CXS-SKH type

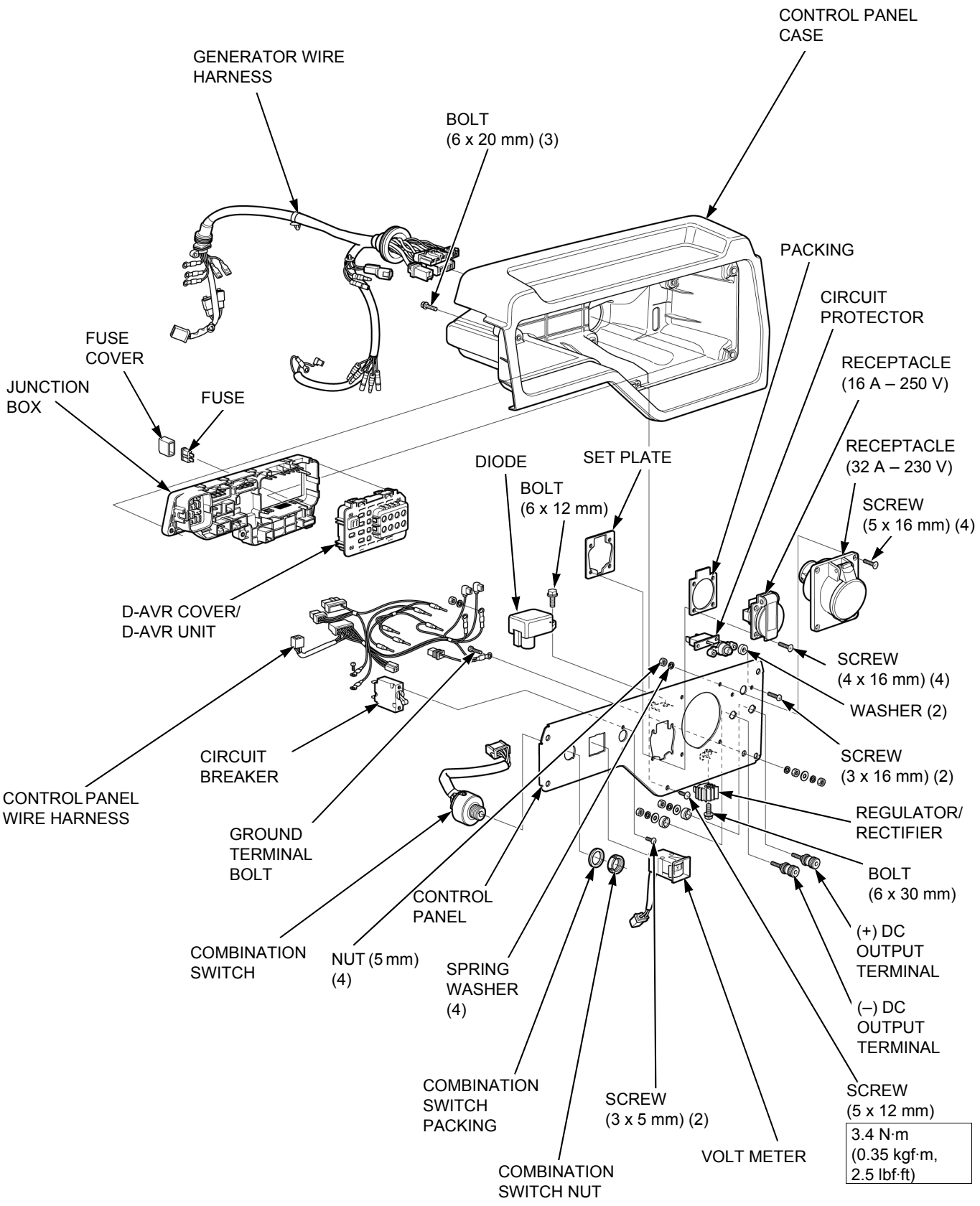


CX-RGH type



OTHER ELECTRICAL

CXS-RGH type



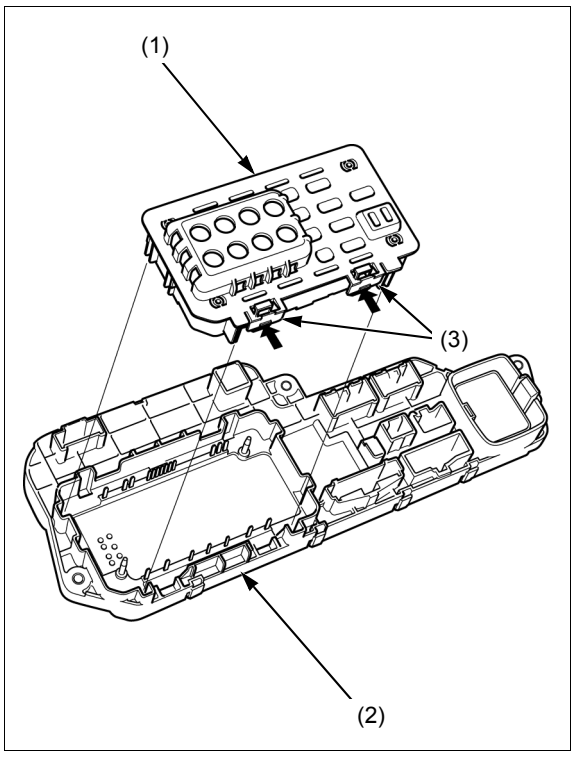
D-AVR COVER/D-AVR UNIT REMOVAL/ INSTALLATION

Remove the junction box (page 10-3).

Remove the D-AVR cover/D-AVR unit (1) from the junction box (2) by pushing the two tabs (3) and lifting up the D-AVR cover.

Installation is in the reverse order of removal.

- When installing the D-AVR cover to the junction box, push the D-AVR cover into the junction box until fully seated.



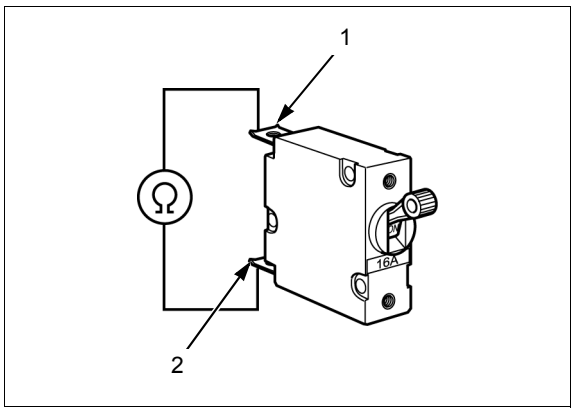
CIRCUIT BREAKER INSPECTION

EXCEPT LDH, LTH type

Remove the circuit breaker (page 10-3).

Check for continuity between the terminals according to the table below.

	Position	
Terminal	OFF	ON
1	No Continuity	Continuity
2		

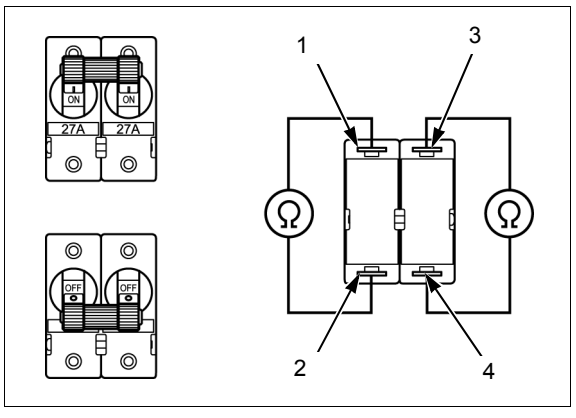


LDH, LTH type

Remove the circuit breaker (page 10-3).

Check for continuity between the terminals according to the table below.

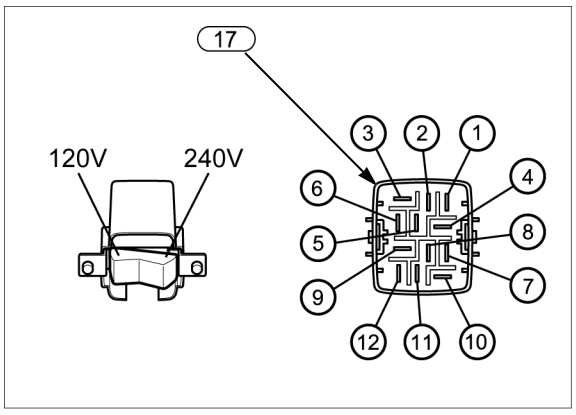
	Position	
Terminal	OFF	ON
1	No Continuity	Continuity
2		
3	No Continuity	Continuity
4		



VOLTAGE SELECTOR SWITCH INSPECTION

Remove the voltage selector switch (page 10-3).

Check for continuity between the voltage selector switch 12P connector (17) terminals shown in the table below.



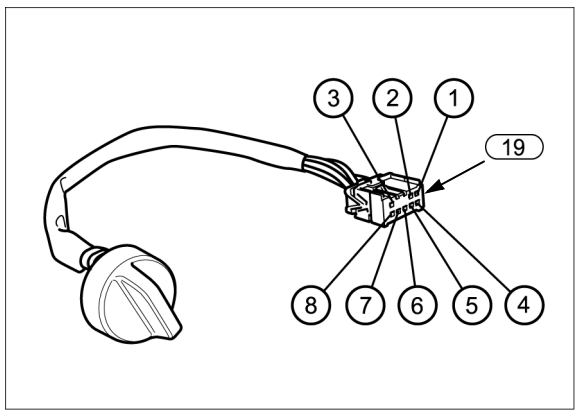
Position \ Terminal	1	2	3	4	5	6	7	8	9	10	11	12
120V		○—○			○—○			○—○			○—○	
240V	○—○			○—○			○—○			○—○		

ENGINE STOP SWITCH INSPECTION (CX TYPE)

Remove the engine stop switch (page 10-3).

Check for continuity between the engine stop switch 8P connector (19) terminals shown in the table below.

	IG	E	G	FS
OFF	○—○		○—○	
ON				
TERMINAL No.	(4)	(3)	(1)	(7)

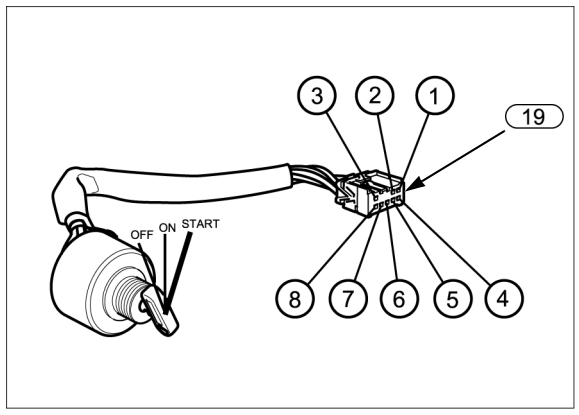


COMBINATION SWITCH INSPECTION (CXS TYPE)

Remove the combination switch (page 10-3).

Check for continuity between the combination switch 8P connector (19) terminals shown in the table below.

	IG	E	BAT	ST	G	FS
OFF	○	○			○	○
ON						
ST			○	○		
TERMINAL No.	4	3	6	8	1	7

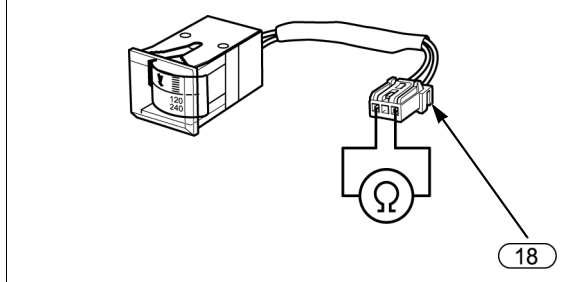


VOLT METER INSPECTION (EXCEPT UH TYPE)

Remove the volt meter (page 10-3).

Measure the resistance between the volt meter 2P connector (18) terminals of the volt meter side.

Resistance: 120 kΩ



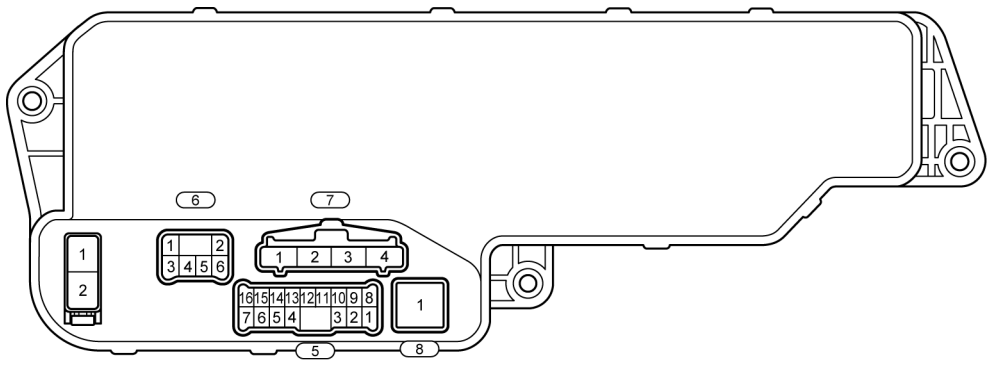
JUNCTION BOX INSPECTION

MH, RH, KH, RHH, RGH, UH, SH, SKH type

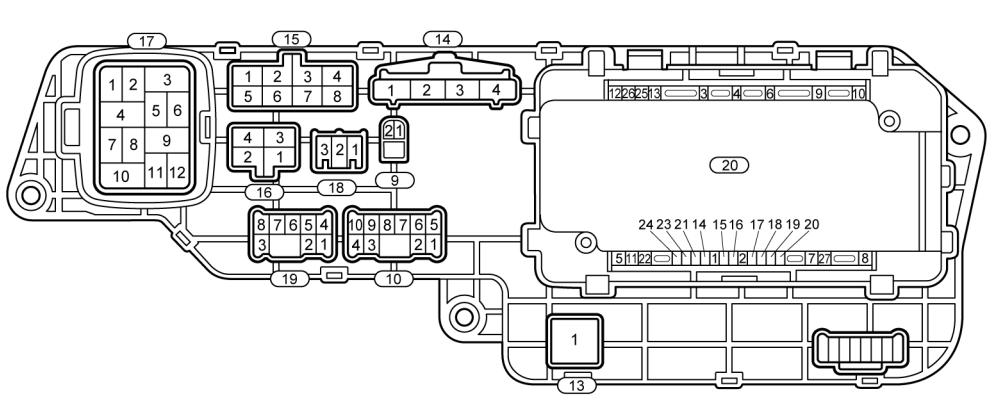
Remove the junction box (page 10-3).

Check for continuity between the each junction box terminal as shown.

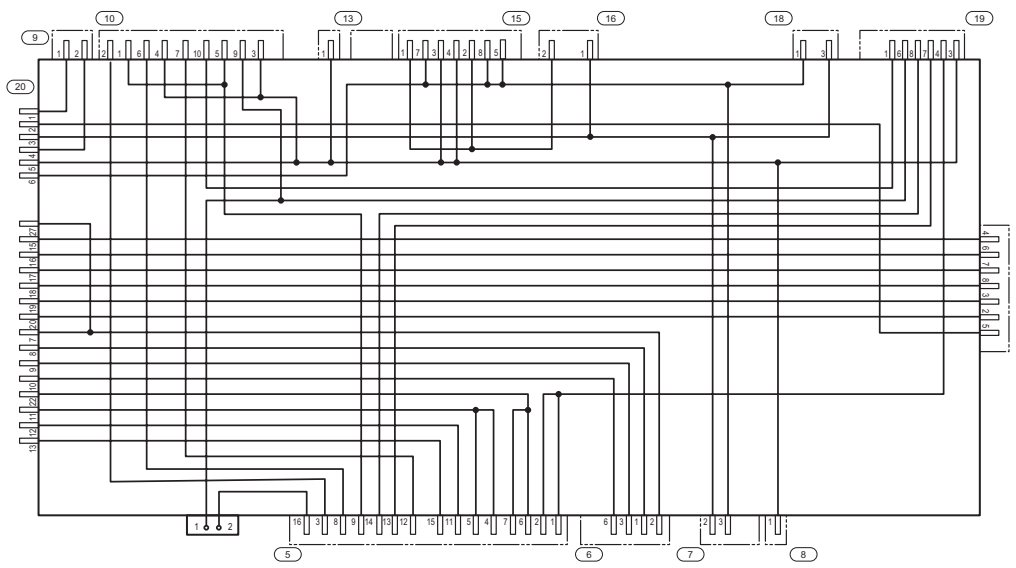
JUNCTION BOX (GENERATOR SIDE):



JUNCTION BOX (CONTROL PANEL SIDE):



JUNCTION BOX INNER CIRCUIT:

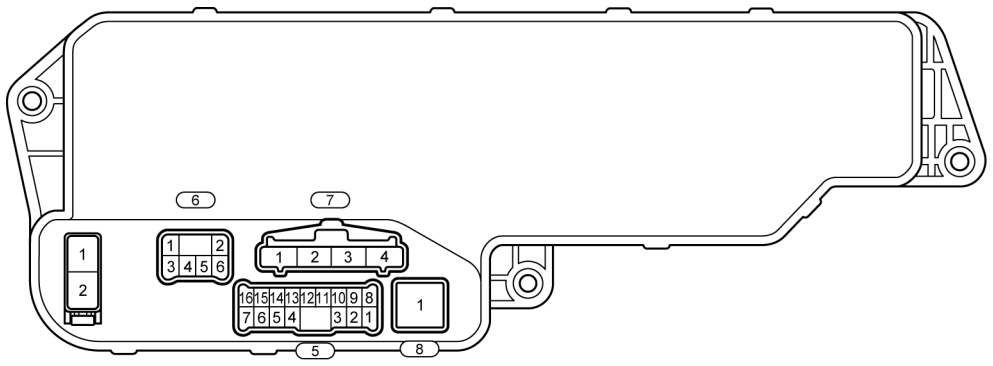


LDH, LTH type

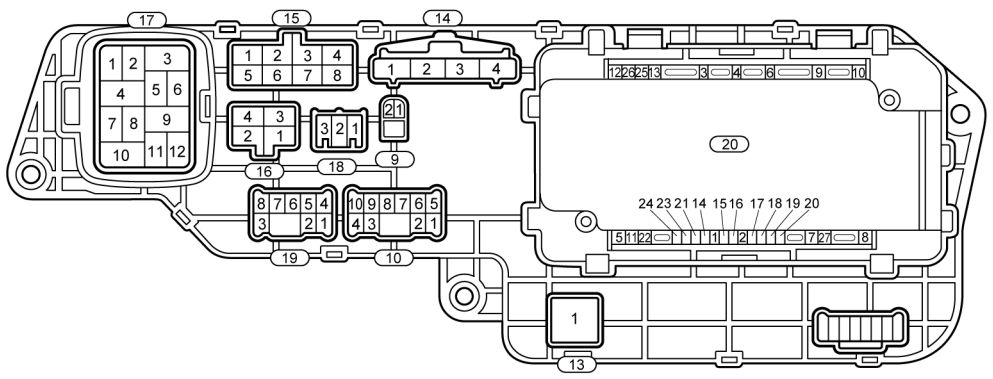
Remove the junction box (page 10-3).

Check for continuity between the each junction box terminal as shown.

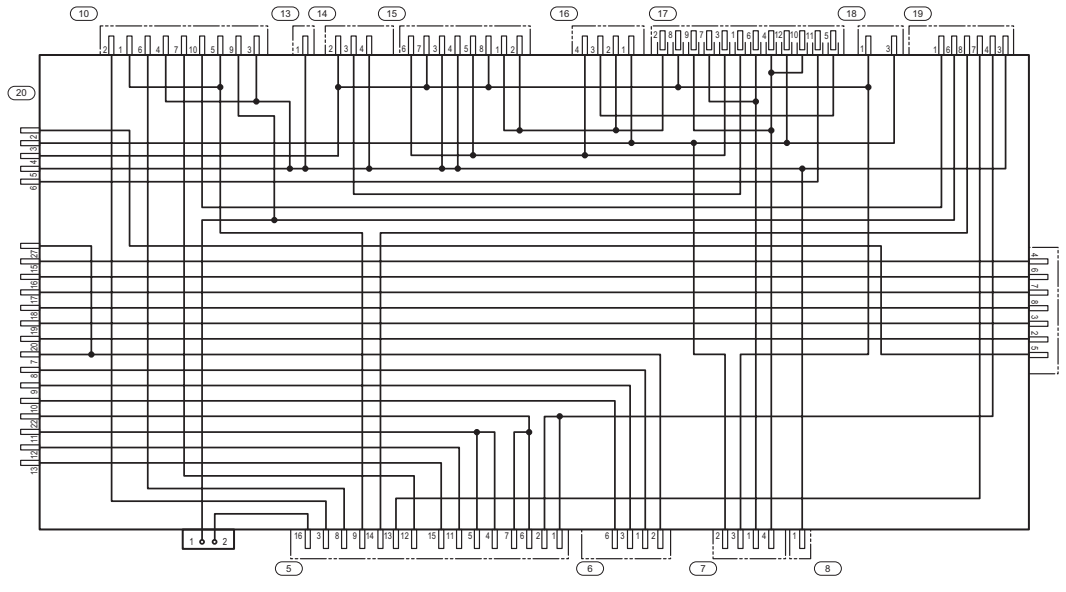
JUNCTION BOX (GENERATOR SIDE):



JUNCTION BOX (CONTROL PANEL SIDE):



JUNCTION BOX INNER CIRCUIT:



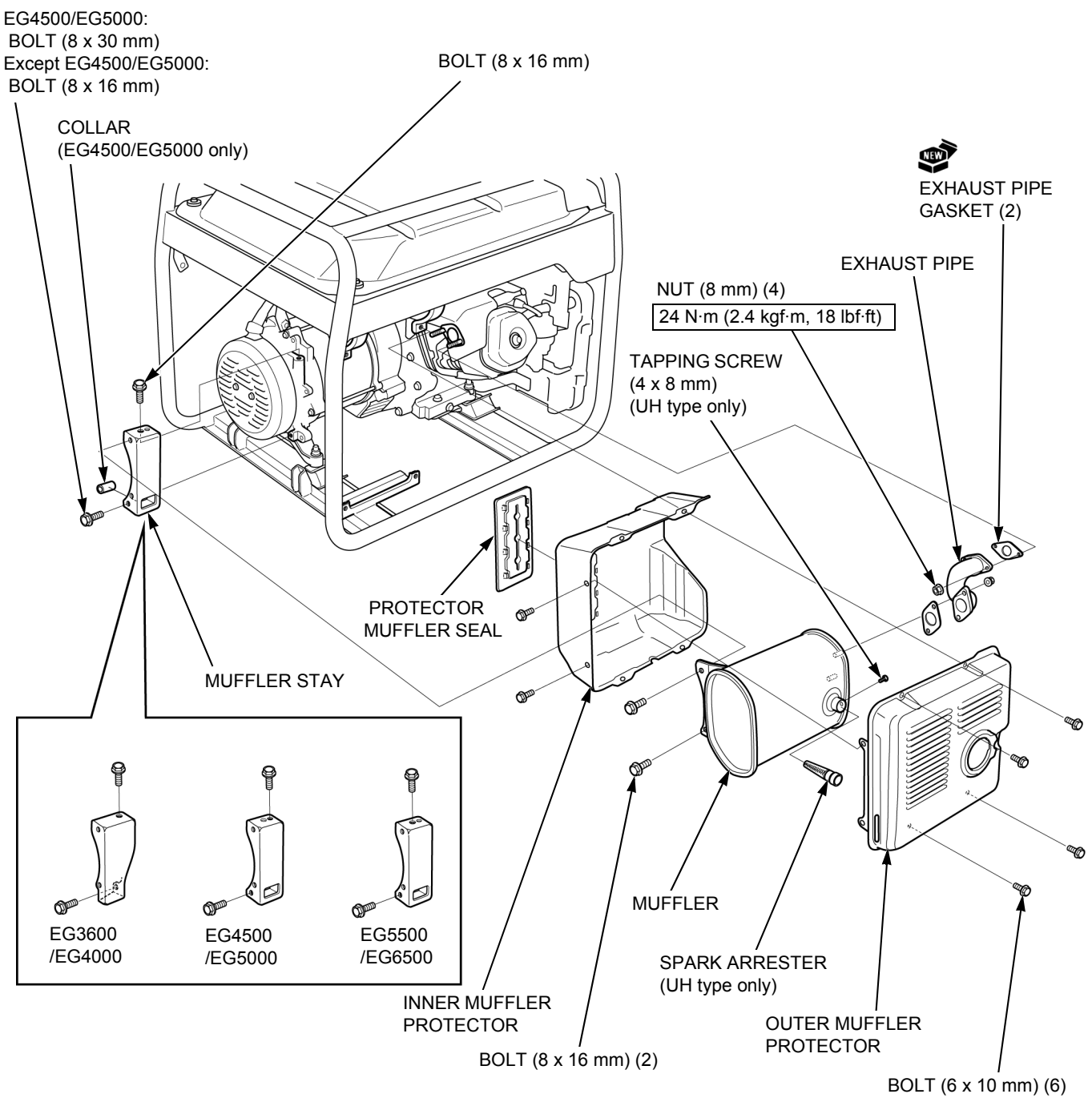
MEMO

11. MUFFLER

MUFFLER REMOVAL/INSTALLATION

⚠ CAUTION

The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. Allow it to cool before proceeding.

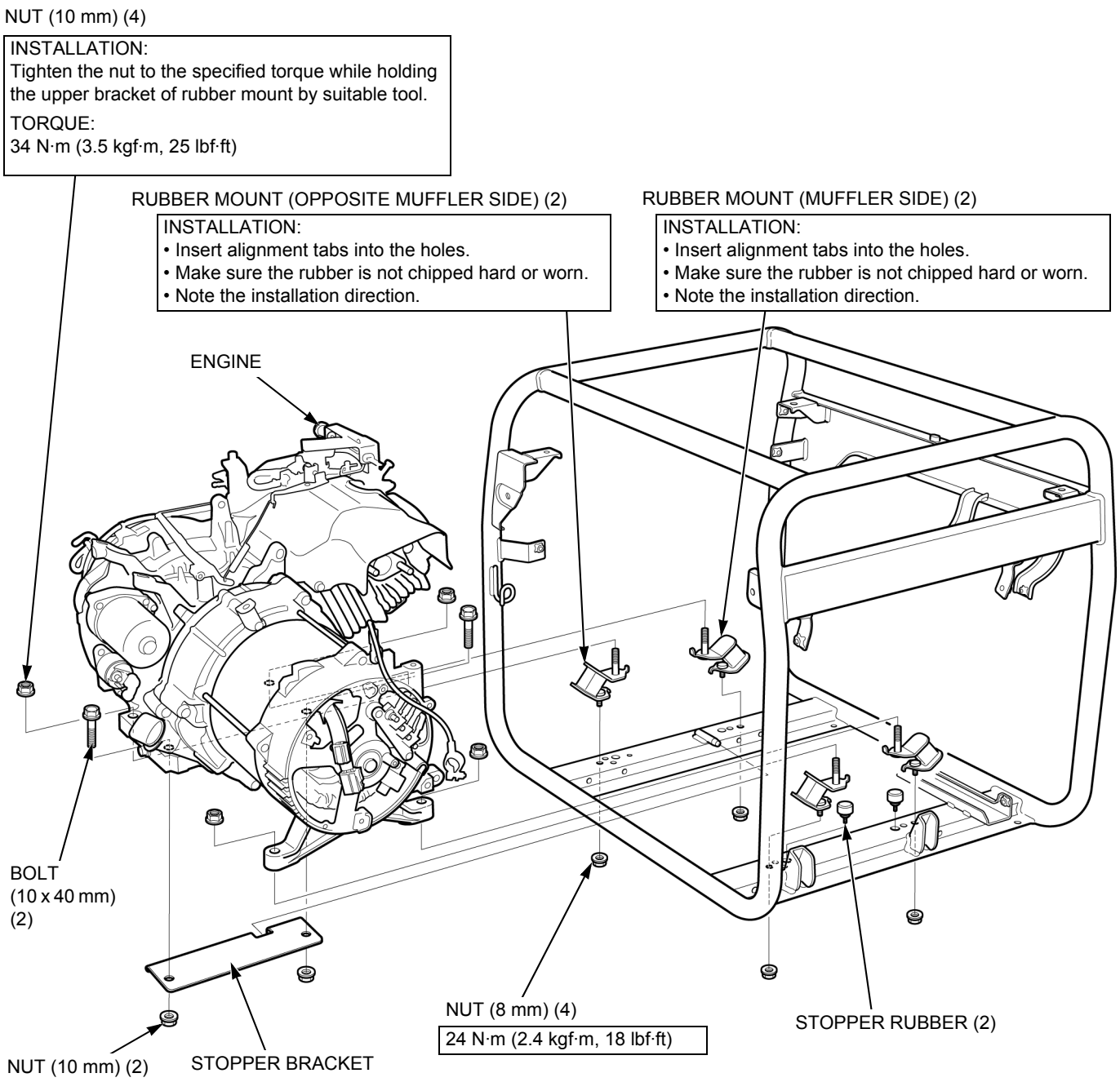


12. ENGINE REMOVAL/INSTALLATION

ENGINE REMOVAL/INSTALLATION

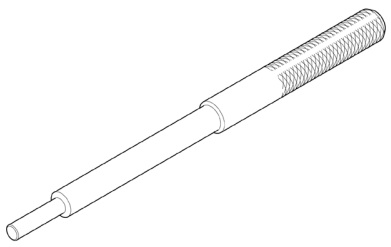
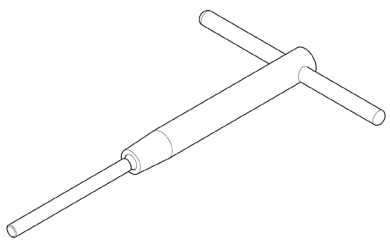
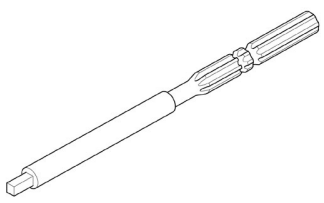
Remove the following:

– Muffler (page 11-2)
– Fuel tank (page 5-4)
– Recoil starter grip (page 9-4)



13. CYLINDER HEAD

TOOLS

Valve guide driver, 6.45 mm 07742-0010200 	Seat cutter, 35 mm (45° EX) 07780-0010400 	Seat cutter, 40 mm (45° IN) 07780-0010500 
Flat cutter, 35 mm (32° EX) 07780-0012300 	Flat cutter, 38.5 mm (32° IN) 07780-0012400 	Interior cutter, 37.5 mm (60° IN/EX) 07780-0014100 
Cutter holder, 6.6 mm 07781-0010202 	Valve guide reamer, 6.612 mm 07984-ZE20001 	

CYLINDER HEAD REMOVAL/INSTALLATION

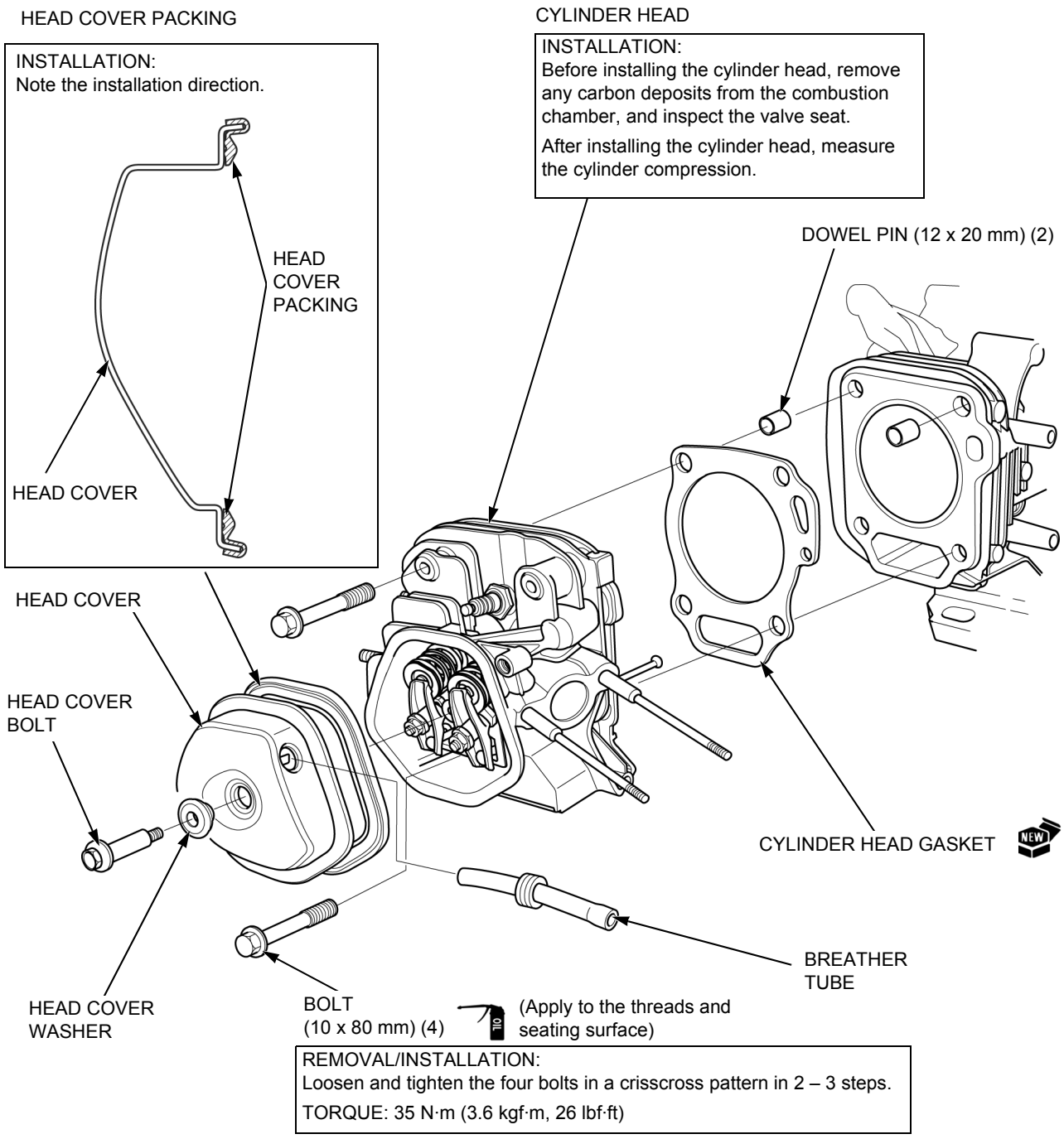
Set the piston at top dead center of the cylinder compression stroke (page 3-7).

Remove the following parts:

– Carburetor/carburetor insulator (page 5-6)
– Control base (page 6-2)
– Muffler (page 11-2)

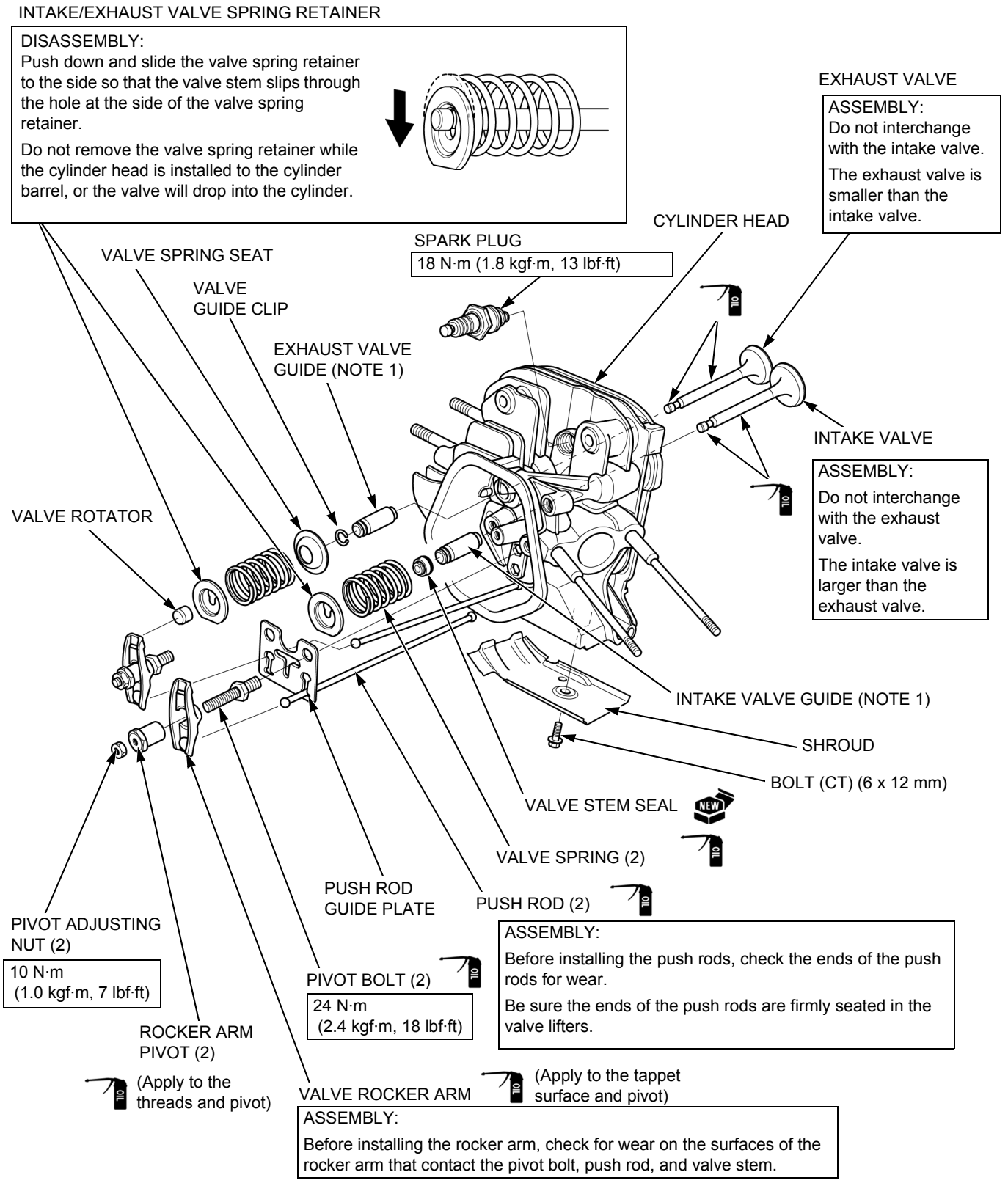
Installation is in the reverse order of removal.

Check the valve clearance, and if necessary, adjust the clearance (page 3-7).



CYLINDER HEAD DISASSEMBLY/ASSEMBLY

Remove the cylinder head (page 13-3).



NOTE 1	Valve guide replacement	See page 13-8

CYLINDER HEAD/VALVES INSPECTION

CYLINDER COMPRESSION CHECK

Start the engine and warm up to normal operating temperature.

Turn the fuel valve lever to the OFF position, and then remove the drain screw to drain the carburetor.

Remove the spark plug cap (1) from the spark plug.

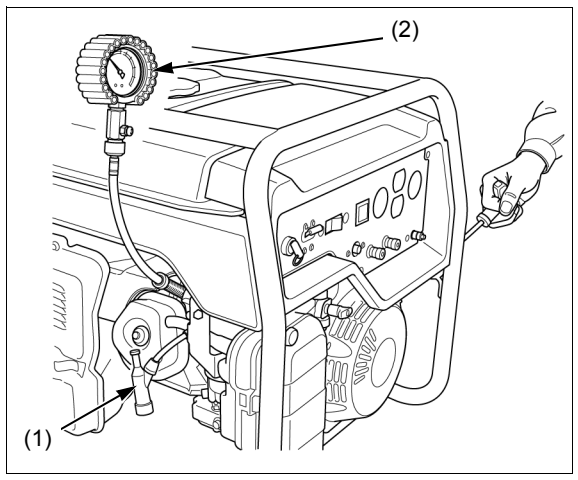
Remove the spark plug using a spark plug wrench.

Pull the recoil starter several times to expel unburned gas.

Attach a commercially available compression gauge (2) to the spark plug hole.

Pull the recoil starter forcefully to measure stable cylinder compression.

CYLINDER COMPRESSION:
1.37 MPa (14 kgf/cm^2, 199 psi) / 1,400 min^{-1} (rpm)



CYLINDER HEAD WARPAGE

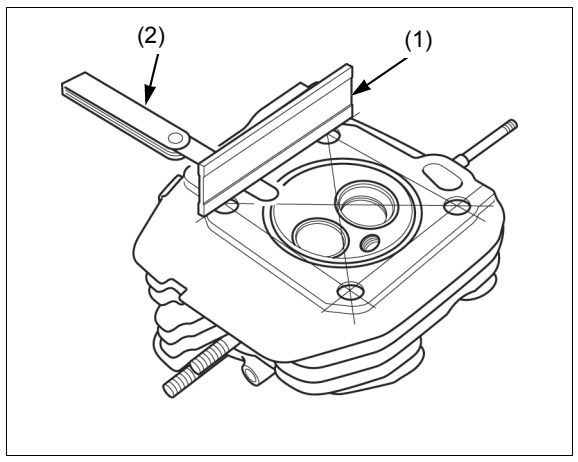
Remove the carbon deposits from the combustion chamber (page 3-8).

Check the spark plug hole and valve areas for cracks.

Check the cylinder head warpage using a straightedge (1) and thickness gauge (2).

SERVICE LIMIT: 0.10 mm (0.004 in)

If the measurement is more than the service limit, replace the cylinder head (page 13-4).



VALVE SEAT WIDTH

Remove the carbon deposits from the combustion chamber (page 3-8).

Inspect each valve for face irregularities.

If necessary, replace the valve (page 13-4).

Apply a light coat of Prussian Blue or erasable felt-tipped marker ink to each valve seat.

Insert the valve, and snap it closed against its seat several times. Be sure the valve does not rotate on the seat.

The transferred marking compound will show any area of the valve face that is not concentric.

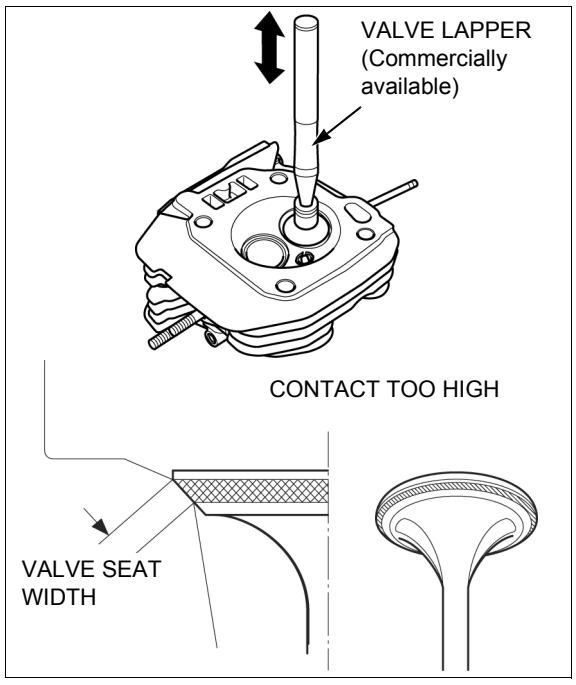
Measure the valve seat width of the cylinder head.

STANDARD: 1.0 – 1.2 mm (0.04 – 0.05 in)
SERVICE LIMIT: 2.1. mm (0.08 in)

If the measurement is more than the service limit, recondition the valve seat (page 13-10).

Check whether the valve seat contact area of the valve is too high.

If the valve seat is too high or too low, recondition the valve seat (page 13-10).



VALVE GUIDE I.D.

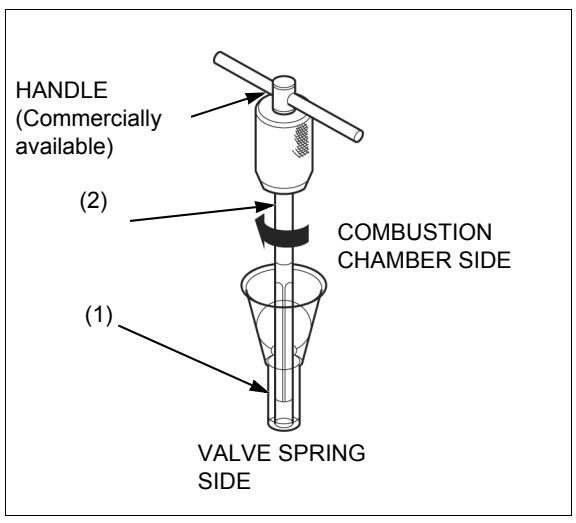
Ream the valve guide (1) to remove any carbon deposits before measuring.

TOOL:
Valve guide reamer 6.612 mm (2) 07984-ZE20001

NOTICE

Turn the special tool (Valve guide reamer) clockwise, never counterclockwise.

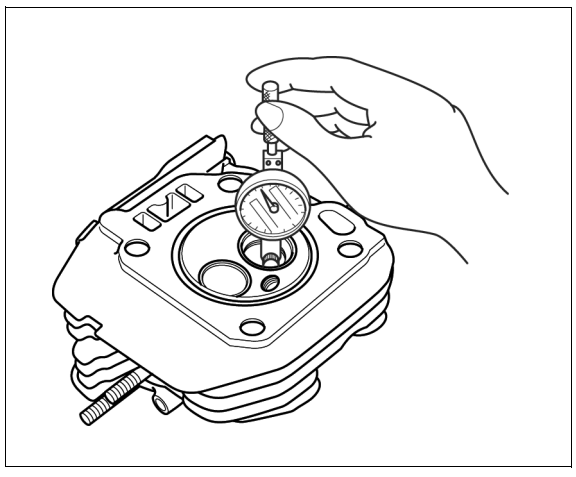
Continue to rotate the special tool while removing it from the valve guide.



Measure and record each valve guide I.D.

STANDARD: 6.600 – 6.612 mm (0.2598 – 0.2603 in)
SERVICE LIMIT: 6.66 mm (0.262 in)

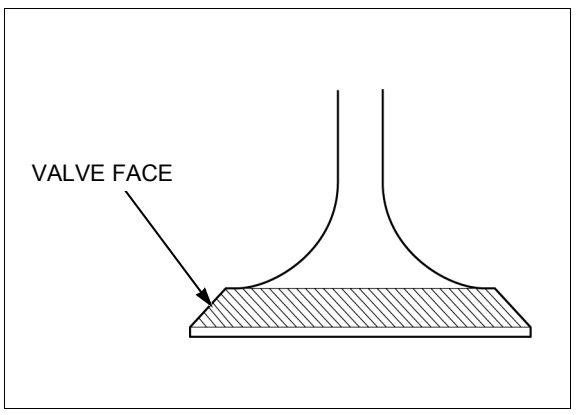
If the measured valve guide I.D. is more than the service limit, replace the valve guide (page 13-8).



VALVE FACE

Inspect each valve for face irregularities.

If necessary, replace the valve (page 13-4).



VALVE STEM O.D.

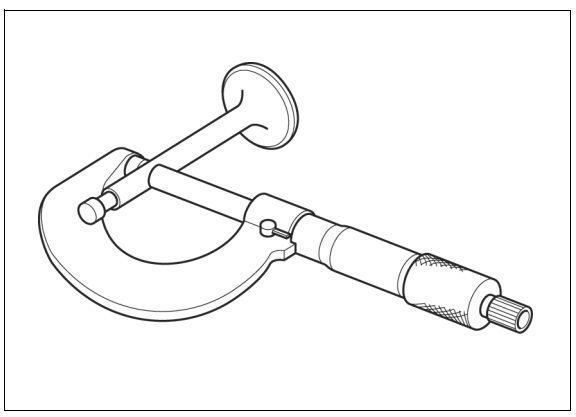
Inspect each valve for bending or abnormal stem wear.

If necessary, replace the valve (page 13-4).

Measure and record each valve stem O.D.

STANDARD:	**IN:**	**6.575 – 6.590 mm (0.2589 – 0.2594 in)**
	EX:	**6.535 – 6.550 mm (0.2573 – 0.2579 in)**
SERVICE LIMIT:	**IN:**	**6.44 mm (0.254 in)**
	EX:	**6.40 mm (0.252 in)**

If the measurement is less than the service limit, replace the valve (page 13-4).



GUIDE-TO-STEM CLEARANCE

Subtract each valve stem O.D. from the corresponding guide I.D. to obtain the stem-to-guide clearance.

STANDARD:	**IN:**	**0.010 – 0.037 mm (0.0004 – 0.0015 in)**
	EX:	**0.050 – 0.077 mm (0.0020 – 0.0030 in)**
SERVICE LIMIT:	**IN:**	**0.11 mm (0.004 in)**
	EX:	**0.13 mm (0.005 in)**

If the calculated clearance is more than the service limit, replace the following:

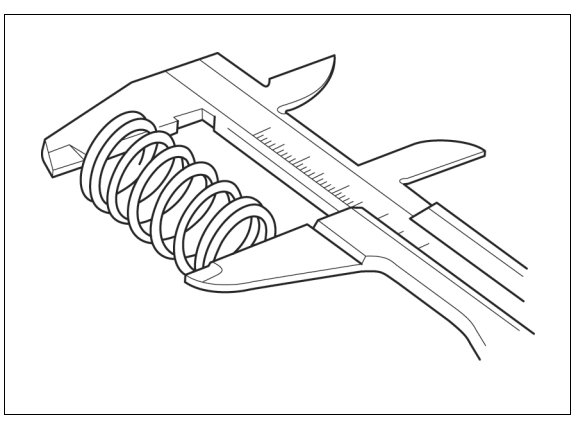
– Valves (page 13-4)
– Valve guide (page 13-8)

VALVE SPRING FREE LENGTH

Measure the valve spring free length.

STANDARD:	**39.0 mm (1.54 in)**
SERVICE LIMIT:	**37.5 mm (1.48 in)**

If the measured length is less than the service limit, replace the valve spring (page 13-4).

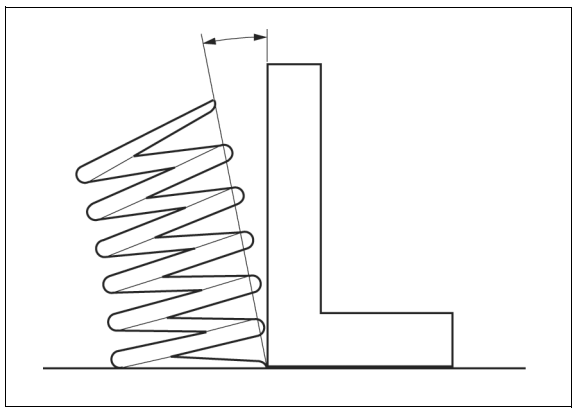


VALVE SPRING PERPENDICULARITY

Measure the valve spring perpendicularity.

SERVICE LIMIT: 1.5°

If the measured perpendicularity is more than the service limit, replace the valve spring (page 13-4).

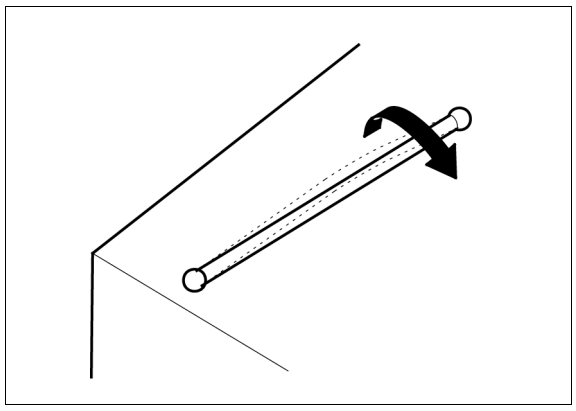


PUSH ROD RUNOUT

Check both ends of the push rod for wear.

Check the push rod for straightness.

If necessary, replace the push rod (page 13-4).



VALVE GUIDE REPLACEMENT

Chill the replacement valve guides in the freezer section of a refrigerator for about an hour.

Use a hot plate or oven to heat the cylinder head evenly to 150°C (300°F).

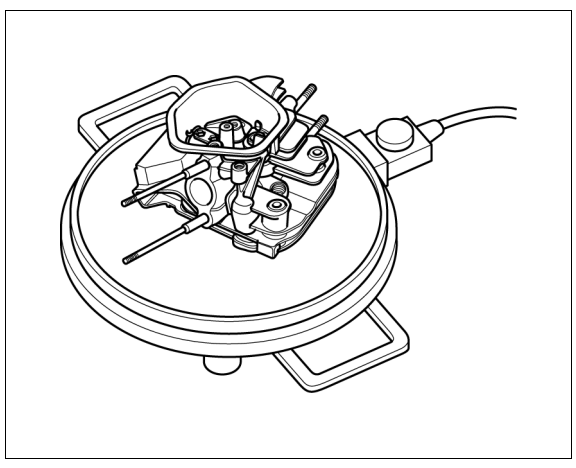
⚠ CAUTION

To avoid burns, use heavy gloves when handling the heated cylinder head.

NOTICE

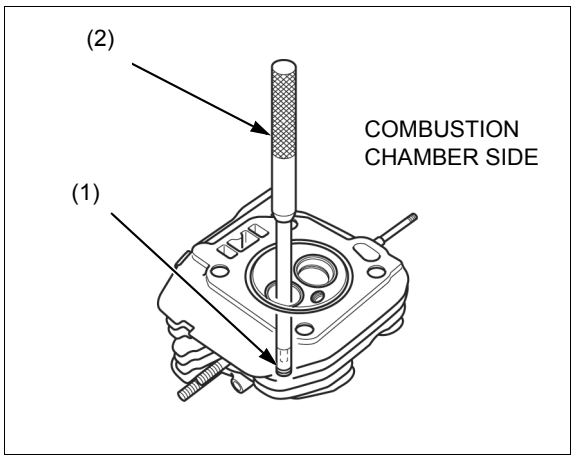
- *Do not use a torch to heat the cylinder head; warpage of the cylinder head may result.*
- *Do not get the cylinder head hotter than 150°C (300°F); excessive heat may loosen the valve seat.*

Remove the heated cylinder head from the hot plate and support it with wooden blocks.



Drive the valve guides (1) out of the cylinder head from the combustion chamber side.

TOOL:
Valve guide driver, 6.45 mm (2) 07742-0010200



NOTICE

When driving the valve guides out, be careful not to damage the cylinder head.

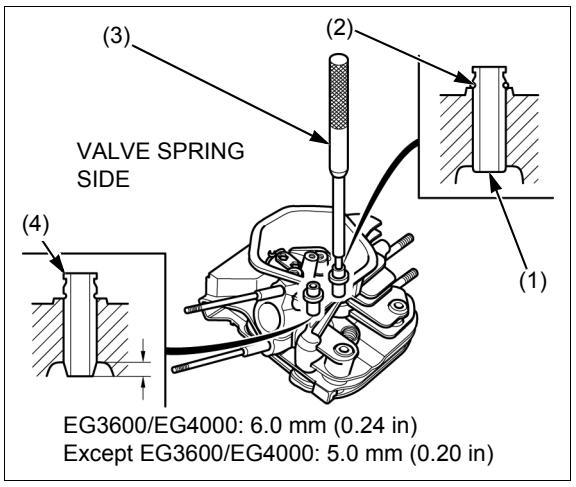
Remove the new valve guides from the refrigerator one at a time as needed.

Drive the exhaust valve guide (1) until the valve guide clip (2) is fully seated as shown from the valve spring side of the cylinder head.

TOOL:
Valve guide driver, 6.45 mm (3) 07742-0010200

Drive the intake valve guide to the specified height (measured from the end of the valve guide to the cylinder head as shown) from the valve spring side of the cylinder head.

TOOL:
Valve guide driver, 6.45 mm 07742-0010200



INTAKE VALVE GUIDE INSTALLATION HEIGHT:
EG3600/EG4000: 6.0 mm (0.24 in)
Except EG3600/EG4000: 5.0 mm (0.20 in)

After installing the valve guide, check the guide for damage.

Replace the valve guide if damaged.

Let the cylinder head cool to room temperature.

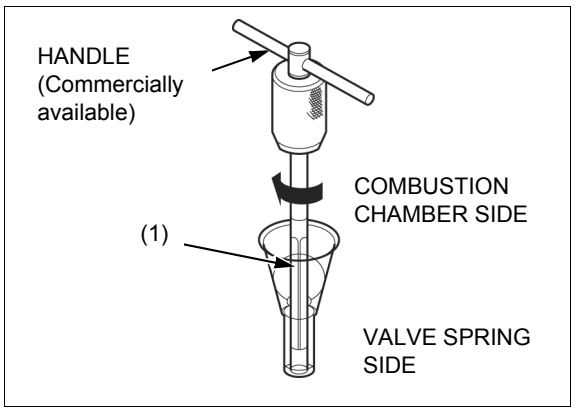
Ream the valve guide.

VALVE GUIDE REAMING

For best results, be sure the cylinder head is at room temperature before reaming valve guides.

Coat the reamer and valve guide with cutting oil.

TOOL:
Valve guide reamer 6.612 mm (1) 07984-ZE20001



Rotate the reamer clockwise through the valve guide the full length of the reamer.

NOTICE

Turn the special tool (valve guide reamer) clockwise, never counterclockwise.

Continue to rotate the special tool while removing it from the valve guide.

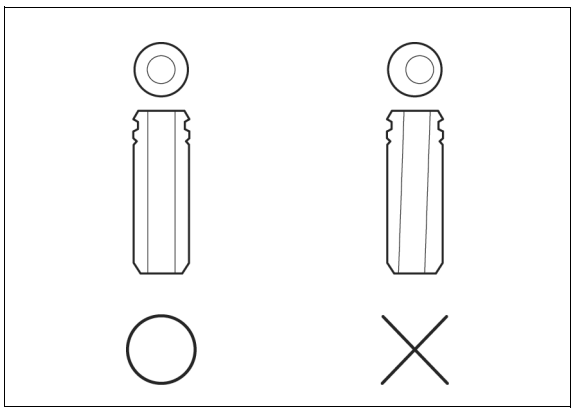
Thoroughly clean the cylinder head to remove any cutting residue.

CYLINDER HEAD

Check the valve guide bore; it should be straight, round and centered in the valve guide. Insert the valve and check operation. If the valve does not operate smoothly, the guide may have been bent during installation.

Replace the valve guide if it is bent or damaged.

Check the valve guide-to-stem clearance.



VALVE SEAT RECONDITIONING

Thoroughly clean the combustion chamber and valve seats to remove carbon deposits (page 3-8).

Apply a light coat of Prussian Blue or erasable felt-tipped marker ink to the valve seat.

Insert the valve, and snap it closed against its seat several times. Be sure the valve does not rotate on the seat. The transferred marking compound will show any area of the seat that is not concentric.

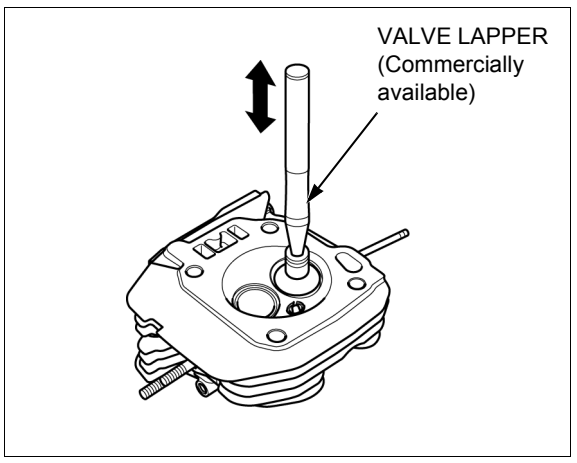
Measure the valve seat width of the cylinder head.

STANDARD: 1.0 – 1.2 mm (0.04 – 0.05 in)
SERVICE LIMIT: 2.1 mm (0.08 in)

If the measurement is more than the service limit, recondition the valve seat.

Check whether the valve seat contact area of the valve is too high.

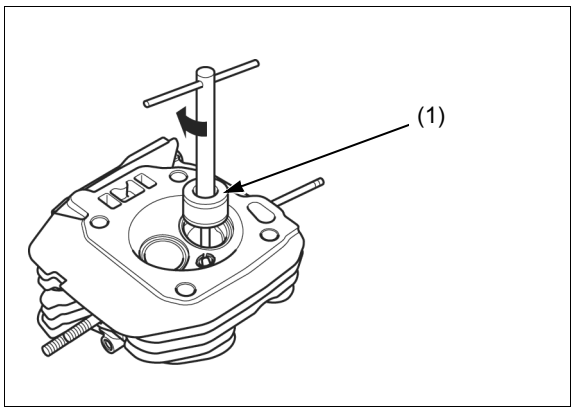
If the valve seat is too high or too low, recondition the valve seat.



Valve seat cutters (1)/grinder or equivalent valve seat refacing equipment is recommended to correct a worn valve seat.

NOTICE

Turn the cutter clockwise, never counterclockwise. Continue to turn the cutter as you lift it from the valve seat.



The 32° cutter removes material from the top edge (contact too high).

TOOLS:

Cutter holder 6.6 mm	**07781-0010202**
Flat cutter, 38.5 mm (32° IN)	**07780-0012400**
Flat cutter, 35 mm (32° EX)	**07780-0012300**

The 60° cutter removes material from the bottom edge (contact too low).

TOOLS:

Cutter holder 6.6 mm	**07781-0010202**
Interior cutter, 37.5 mm (60° IN/EX)	**07780-0014100**

Be sure that the width of the finished valve seat is within specification.

STANDARD: 1.0 – 1.2 mm (0.04 – 0.05 in)
SERVICE LIMIT: 2.1 mm (0.08 in)

Make a light pass with the 45° cutter to remove any possible burrs at the edge of the seat.

TOOLS:

Cutter holder 6.6 mm	**07781-0010202**
Seat cutter, 40 mm (45° IN)	**07780-0010500**
Seat cutter, 35 mm (45° EX)	**07780-0010400**

After resurfacing the seats, inspect for even valve seating.

Apply Prussian Blue compound or erasable felt-tipped marker ink to the valve seat. Insert the valve, and snap it closed against its seat several times. Be sure the valve does not rotate on the seat.

The seating surface, as shown by the transferred marking compound, should have good contact all the way around.

Thoroughly clean the cylinder head to remove any cutting residual.

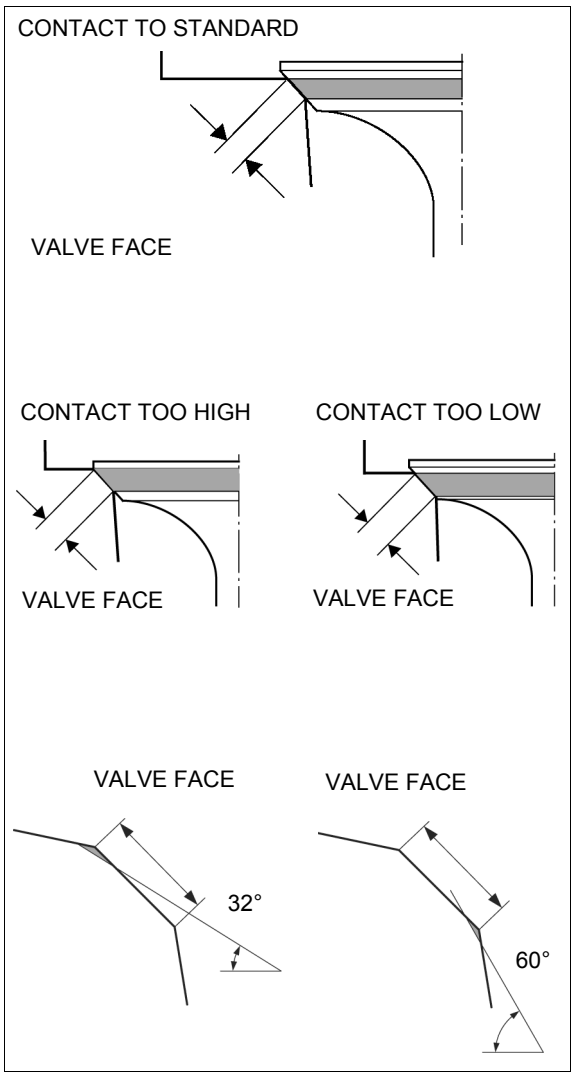
Lap the valves into their seats, using a commercially available valve lapper (1) and lapping compound.

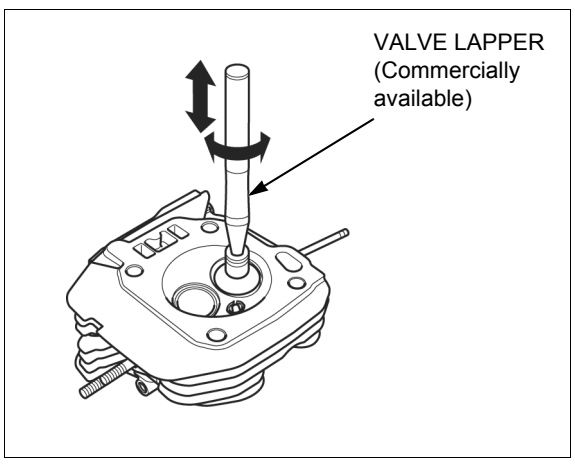
After lapping, wash all residual compound off the cylinder head and valve.

NOTICE

- *Do not push the valve against the seat with force during lapping. Apply a light pass with the valve lapper.*
- *Avoid lapping the valve in the same position as it causes uneven wear. Lap the valve by turning the lapper slowly.*
- *Take care not to allow the lapping compound to enter the gap between the stem and guide.*

Adjust the valve clearance after assembly (page 3-7).

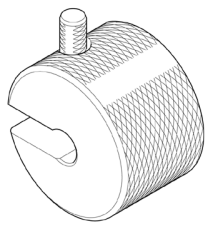
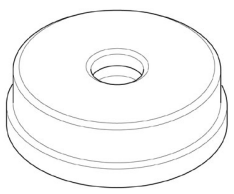
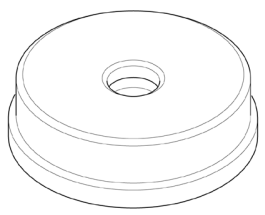
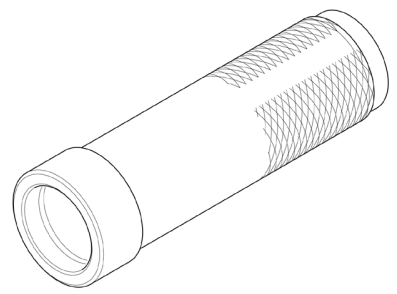
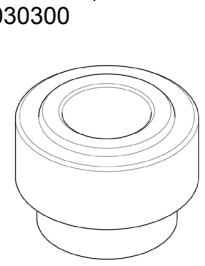
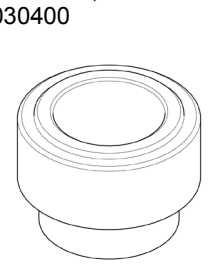
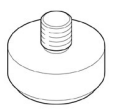
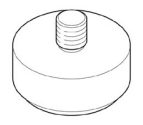
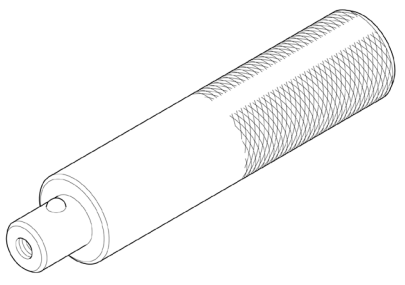
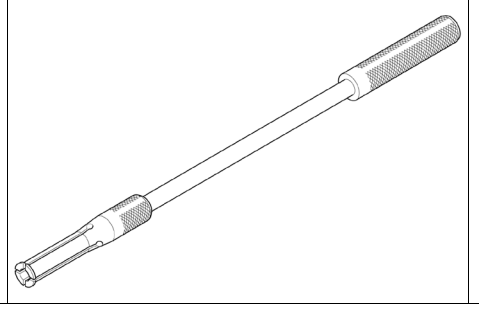
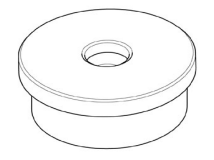




MEMO

14. CYLINDER BLOCK

TOOLS

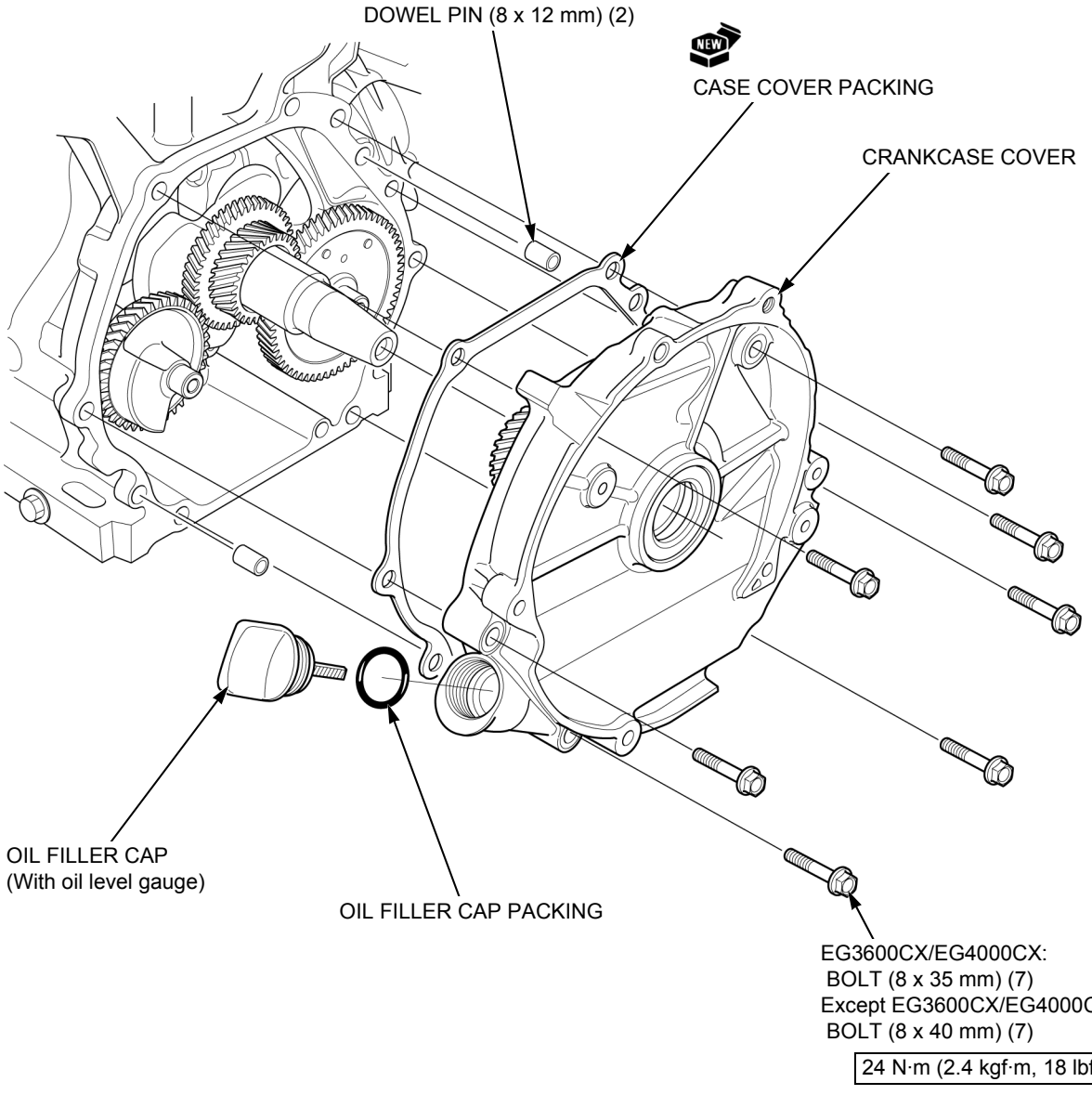
Remover weight 07741-0010201 	Attachment, 32 × 35 mm 07746-0010100 	Attachment, 52 × 55 mm 07746-0010400 
Attachment, 62 × 68 mm 07746-0010500 	Attachment, 72 × 75 mm 07746-0010600 	Driver, 40 mm I.D. 07746-0030100 
Driver attachment, 30 mm I.D. 07746-0030300 	Driver attachment, 35 mm I.D. 07746-0030400 	Pilot, 15 mm 07746-0040300
Pilot, 30 mm 07746-0040700 	Pilot, 35 mm 07746-0040800 	Pilot, 14 mm 07746-0041200 
Driver 07749-0010000 	Bearing remover shaft, 15 mm 07936-KC10500 	Attachment, 45 × 50 mm 07946-6920100 

CRANKCASE COVER REMOVAL/INSTALLATION

Drain the engine oil (page 3-4).

Remove the following:

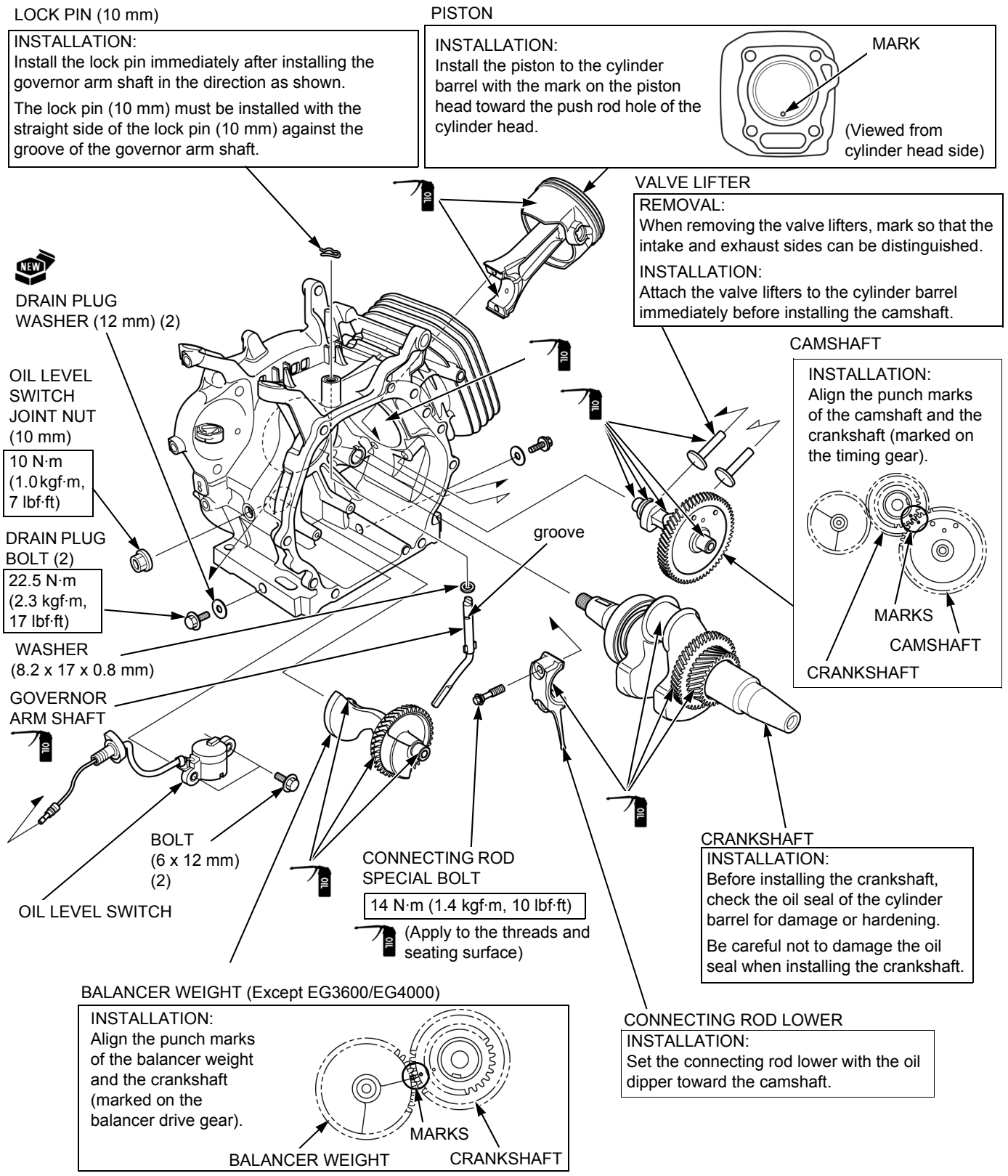
– Generator/front housing (page 7-11)



CRANKSHAFT/CAMSHAFT/BALANCER WEIGHT (EXCEPT EG3600/EG4000)/PISTON REMOVAL/INSTALLATION

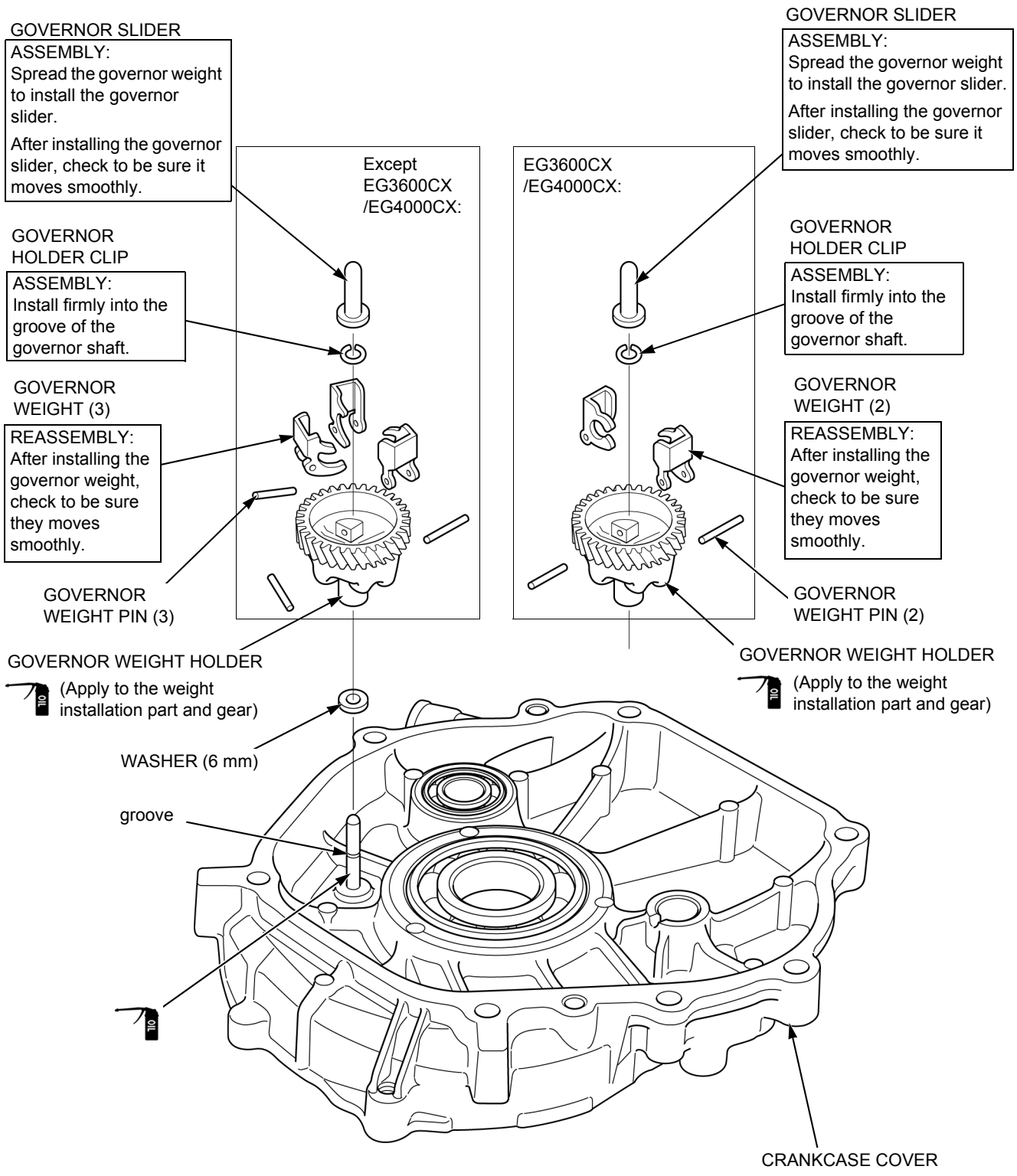
Remove the following:

- Flywheel (page 7-10)
- Crankcase cover (page 14-3)
- Cylinder head (page 13-3)



GOVERNOR DISASSEMBLY/ASSEMBLY

Remove the crankcase cover (page 14-3).



PISTON DISASSEMBLY/ASSEMBLY

Remove the piston(page 14-4).

OIL

PISTON RING SET

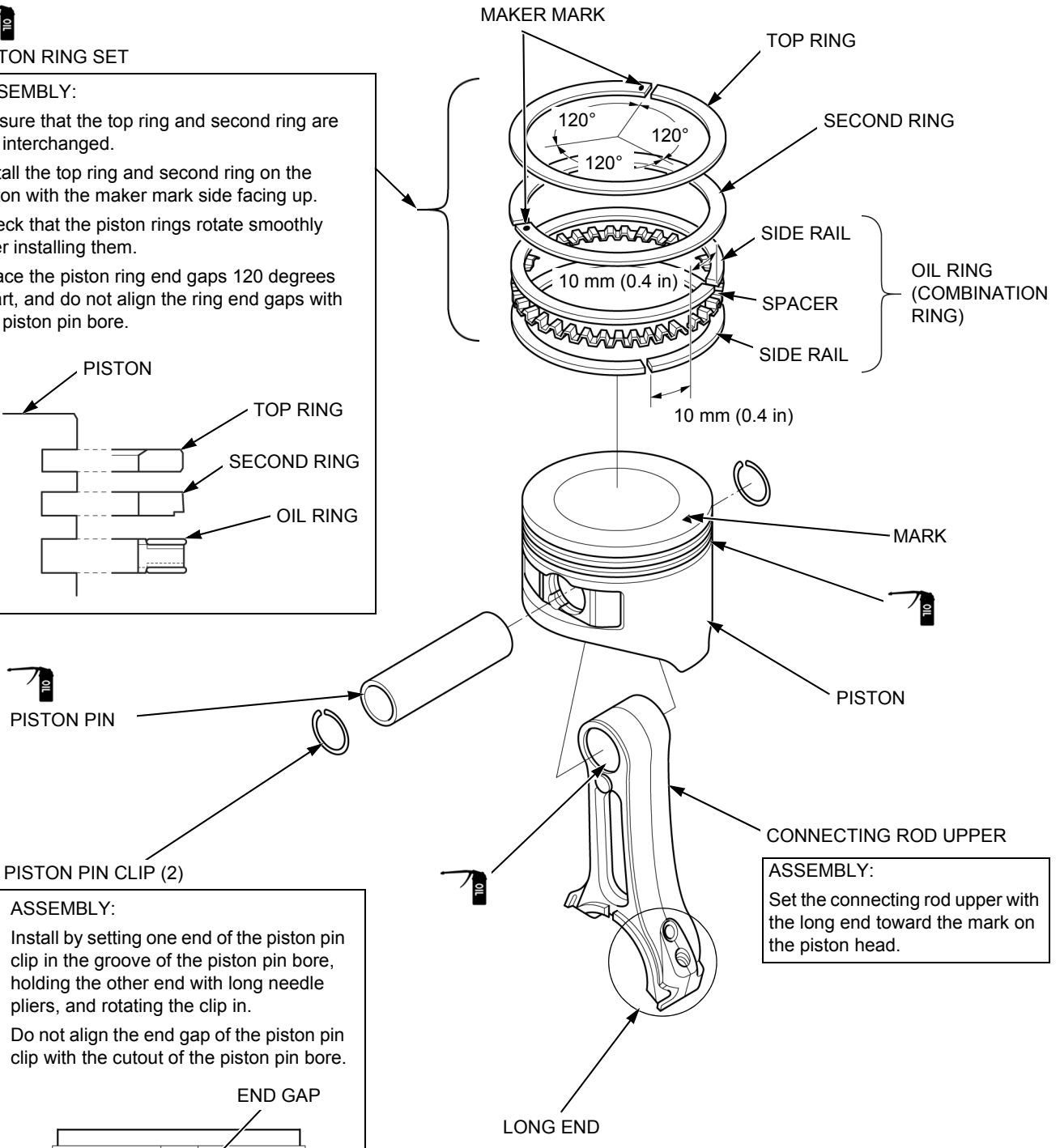
ASSEMBLY:

Be sure that the top ring and second ring are not interchanged.

Install the top ring and second ring on the piston with the maker mark side facing up.

Check that the piston rings rotate smoothly after installing them.

Space the piston ring end gaps 120 degrees apart, and do not align the ring end gaps with the piston pin bore.



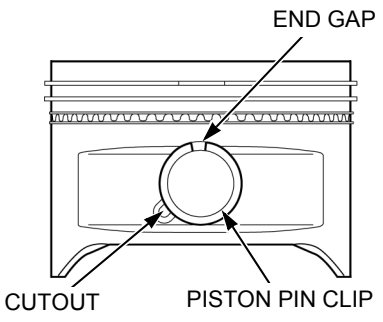
ASSEMBLY:

Set the connecting rod upper with the long end toward the mark on the piston head.

ASSEMBLY:

Install by setting one end of the piston pin clip in the groove of the piston pin bore, holding the other end with long needle pliers, and rotating the clip in.

Do not align the end gap of the piston pin clip with the cutout of the piston pin bore.



CYLINDER BLOCK INSPECTION

CAM SHAFT HOLDER I.D.

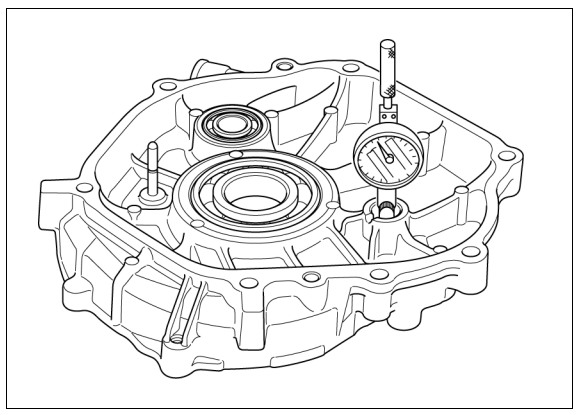
CRANKCASE COVER SIDE

Measure the camshaft holder I.D. of the crankcase cover.

STANDARD: 16.000 – 16.018 mm (0.6299 – 0.6306 in)
SERVICE LIMIT: 16.05 mm (0.632 in)

If the measurement is more than the service limit, replace the crankcase cover (page 14-3).

Inspect the camshaft O.D. (page 14-12) with this inspection.



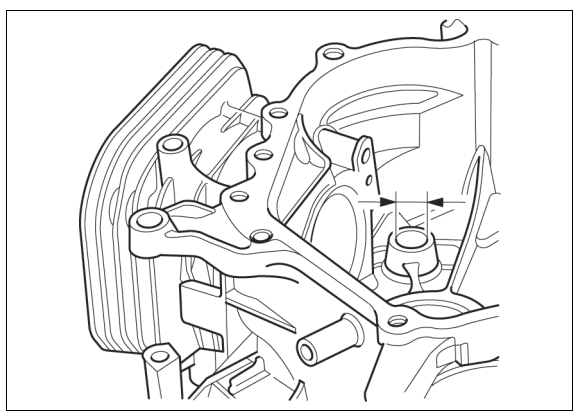
CYLINDER BARREL SIDE

Measure the camshaft holder I.D. of the cylinder barrel.

STANDARD: 16.000 – 16.018 mm (0.6299 – 0.6306 in)
SERVICE LIMIT: 16.05 mm (0.632 in)

If the measurement is more than the service limit, replace the cylinder barrel (page 14-4).

Inspect the camshaft O.D. (page 14-12) with this inspection.



CYLINDER SLEEVE I.D.

Measure and record the cylinder I.D. at three levels in both the “X” axis (perpendicular to crankshaft) and the “Y” axis (parallel to crankshaft). Take the maximum reading to determine cylinder wear and taper.

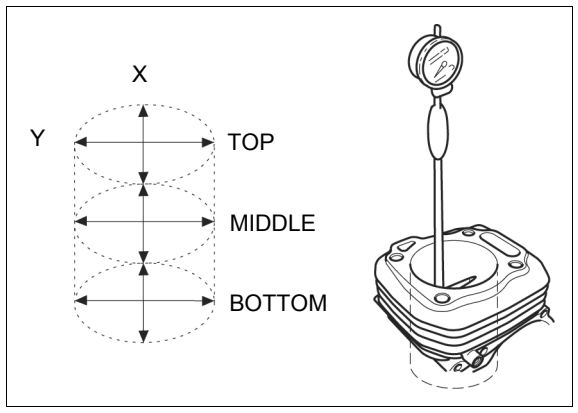
EG3600CX/EG4000CX:
STANDARD: 77.000 – 77.017 mm (3.0315 – 3.0322 in)
SERVICE LIMIT: 77.17 mm (3.038 in)

EG4500CX/EG5000CX:
STANDARD: 82.000 – 82.017 mm (3.2283 – 3.2290 in)
SERVICE LIMIT: 82.17 mm (3.235 in)

EG5500CX/EG6500CX/EG5500CXS/EG6500CXS:
STANDARD: 88.000 – 88.017 mm (3.4646 – 3.4652 in)
SERVICE LIMIT: 88.17 mm (3.471 in)

If the measurement is more than the service limit, replace the cylinder barrel (page 14-4).

Inspect the piston skirt O.D. (page 14-8) with this inspection.



PISTON SKIRT O.D.

Measure and record the piston O.D. at a point 10 mm (0.4 in) from the bottom of the skirt and 90 degrees to the piston pin bore.

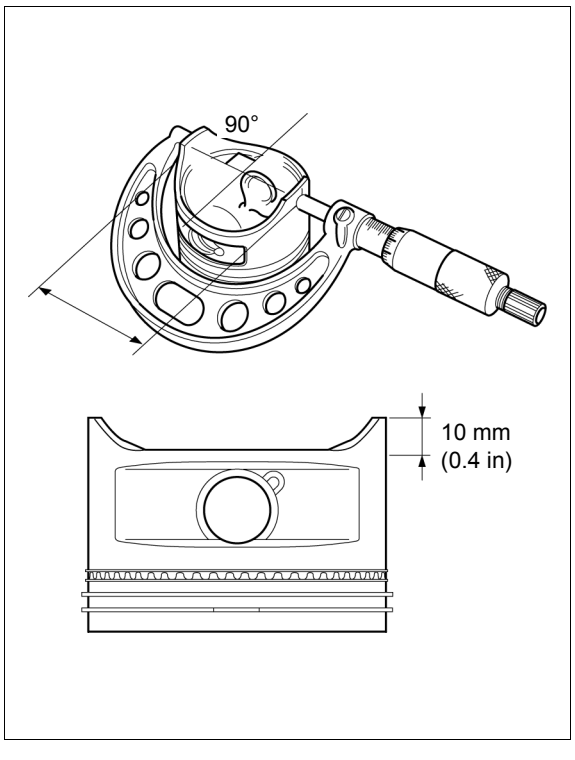
EG3600CX/EG4000CX:
STANDARD: 76.965 – 76.985 mm (3.0301 – 3.0309 in)
SERVICE LIMIT: 76.85 mm (3.026 in)

EG4500CX/EG5000CX:
STANDARD: 81.965 – 81.985 mm (3.2270 – 3.2277 in)
SERVICE LIMIT: 81.85 mm (3.222 in)

EG5500CX/EG6500CX/EG5500CXS/EG6500CXS:
STANDARD: 87.965 – 87.985 mm (3.4632 – 3.4640 in)
SERVICE LIMIT: 87.85 mm (3.459 in)

If the measurement is less than the service limit, replace the piston (page 14-6).

Inspect the cylinder sleeve I.D. (page 14-7) with this inspection.



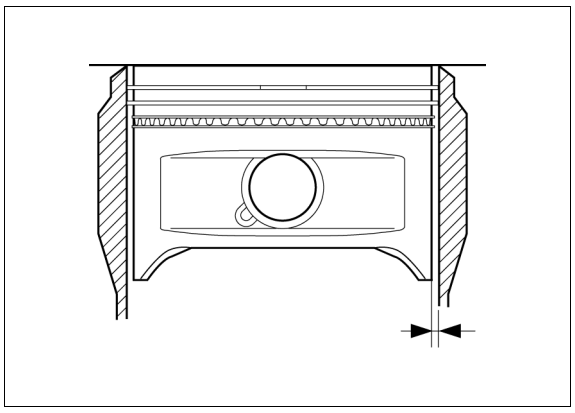
PISTON-TO-CYLINDER CLEARANCE

Subtract the piston skirt O.D. from the cylinder sleeve I.D. to obtain the piston-to-cylinder clearance.

STANDARD: 0.015 – 0.052 mm (0.0006 – 0.0020 in)
SERVICE LIMIT: 0.12 mm (0.005 in)

If the calculated clearance is more than the service limit, replace the piston (page 14-6) and recheck the clearance.

If the clearance is still more than the service limit with the new piston, replace the cylinder barrel (page 14-4).



PISTON PIN BORE I.D.

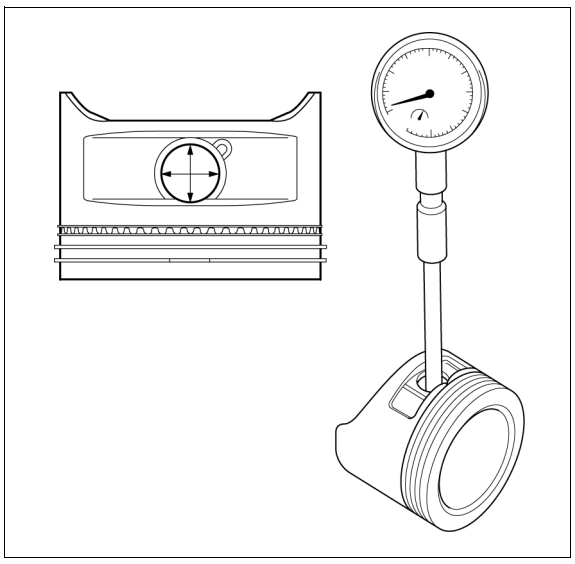
Measure and record the piston pin bore I.D. of the piston.

EG3600CX/EG4000CX:
STANDARD: 18.002 – 18.008 mm (0.7087 – 0.7090 in)
SERVICE LIMIT: 18.042 mm (0.7103 in)

Except EG3600CX/EG4000CX:
STANDARD: 20.002 – 20.008 mm (0.7875 – 0.7877 in)
SERVICE LIMIT: 20.042 mm (0.7891 in)

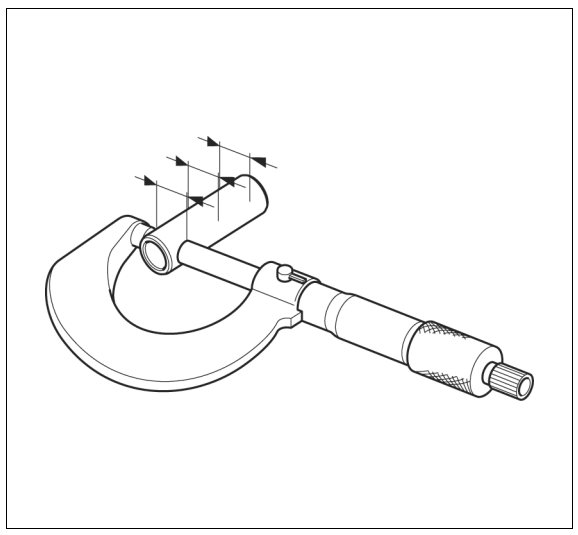
If the measurement is less than the service limit, replace the piston (page 14-6).

Inspect the piston pin O.D. (page 14-9) with this inspection.



PISTON PIN O.D.

Measure and record the piston pin O.D. at three points (both ends and middle). Take the minimum reading to determine piston pin O.D.



EG3600CX/EG4000CX:

STANDARD: 17.994 – 18.000 mm (0.7084 – 0.7087 in)

SERVICE LIMIT: 17.950 mm (0.7067 in)

Except EG3600CX/EG4000CX:

STANDARD: 19.994 – 20.000 mm (0.7872 – 0.7874 in)

SERVICE LIMIT: 19.950 mm (0.7854 in)

If the measurement is less than the service limit, replace the piston pin.

Inspect the piston pin bore I.D. (page 14-8).

Inspect the connecting rod small end I.D. (page 14-10) with this inspection.

PISTON PIN-TO-PISTON PIN BORE CLEARANCE

Subtract the piston pin O.D. from the piston pin bore I.D. to obtain the piston pin-to-piston pin bore clearance.

STANDARD: 0.002 – 0.014 mm (0.0001 – 0.0006 in)

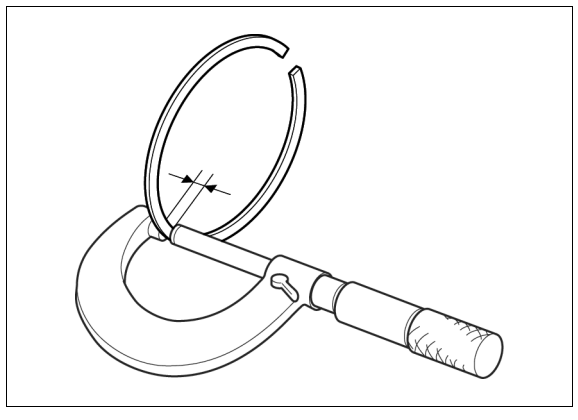
SERVICE LIMIT: 0.08 mm (0.003 in)

If the calculated clearance is more than the service limit, replace the piston pin (page 14-6) and recheck the clearance.

If the clearance is still more than the service limit with the new piston pin, replace the piston (page 14-6).

PISTON RING WIDTH

Measure each piston ring width.



STANDARD:

Top/Second: 1.160 – 1.175 mm (0.0.0457 – 0.0463 in)

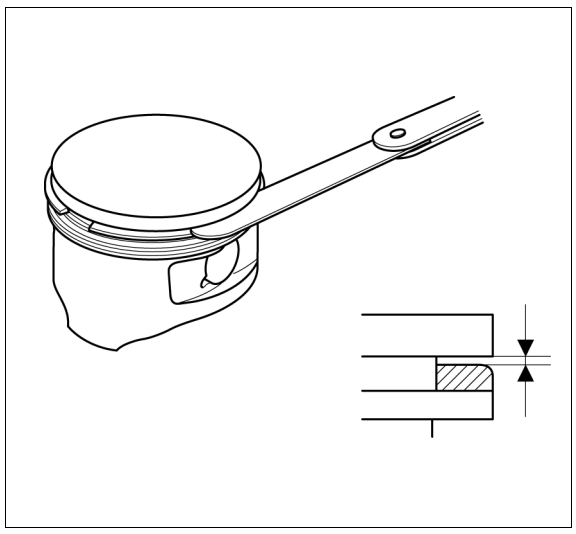
SERVICE LIMIT:

Top/Second: 1.150 mm (0.0453 in)

If any of the measurements is less than the service limit, replace the piston rings (top, second, oil) as a set (page 14-6).

PISTON RING SIDE CLEARANCE

Measure the clearance between each piston ring and ring groove of the piston using a feeler gauge.



STANDARD:
Top/Second: 0.030 – 0.060 mm (0.0012 – 0.0024 in)
SERVICE LIMIT:
Top/second: 0.15 mm (0.006 in)

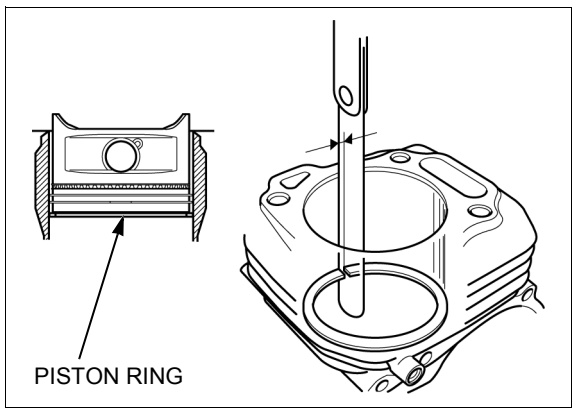
If any of the measurements is more than the service limit, inspect the piston ring width.

If the piston ring width is normal, replace the piston (page 14-6) and reinspect the clearance.
If necessary, replace the piston rings (top, second, oil) as a set (page 14-6) and reinspect the clearance.
If any of the measurements is still more than the service limit with the new piston rings, replace the piston (page 14-6).

PISTON RING END GAP

Before inspection, check whether the cylinder sleeve I.D. (page 14-7) is within the specification.

Measure each piston ring end gap using a feeler gauge.

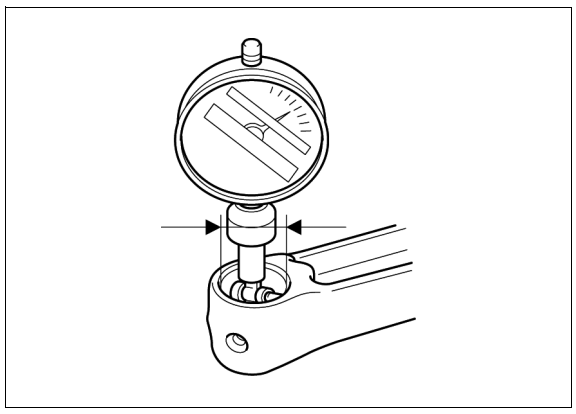


STANDARD:
Top: 0.200 – 0.350 mm (0.0079 – 0.0138 in)
Second: 0.350 – 0.500 mm (0.0138 – 0.0197 in)
Oil (side rail) 0.20 – 0.70 mm (0.008 – 0.028 in)
SERVICE LIMIT:
Top/Second: 1.0 mm (0.04 in)
Oil (side rail) 1.0 mm (0.04 in)

If any of the measurements is more than the service limit, replace the piston rings (top, second, oil) as a set (page 14-6).

CONNECTING ROD SMALL END I.D.

Measure the connecting rod small end I.D.



EG3600CX/EG4000CX:
STANDARD: 18.005 – 18.020 mm (0.7089 – 0.7094 in)
SERVICE LIMIT: 18.07 mm (0.711 in)

Except EG3600CX/EG4000CX:
STANDARD: 20.005 – 20.020 mm (0.7876 – 0.7882 in)
SERVICE LIMIT: 20.07 mm (0.790 in)

If the measurement is more than the service limit, replace the connecting rod (page 14-6).

CONNECTING ROD BIG END I.D.

Set the connecting rod lower to the connecting rod upper.
Apply engine oil to the connecting rod bolt threads and seating surface.
Tighten the connecting rod bolts to the specified torque.

TORQUE: 14 N·m (1.4 kgf·m, 10 lbf·ft)

Measure the connecting rod big end I.D.

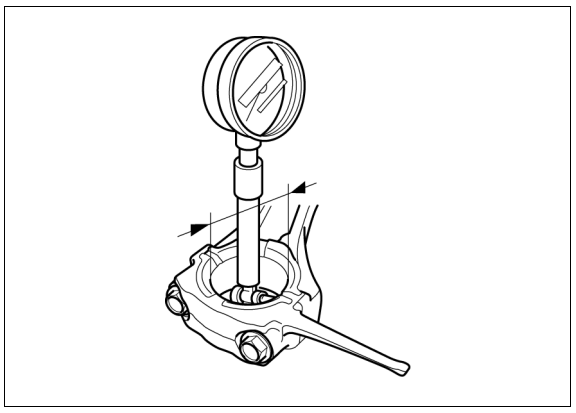
EG3600CX/EG4000CX:

STANDARD:	**33.025 – 33.039 mm (1.3002 – 1.3007 in)**
SERVICE LIMIT:	**33.07 mm (1.302 in)**

Except EG3600CX/EG4000CX:

STANDARD:	**36.025 – 36.039 mm (1.4183 – 1.4189 in)**
SERVICE LIMIT:	**36.07 mm (1.420 in)**

If the measurement is more than the service limit, replace the connecting rod (page 14-6).



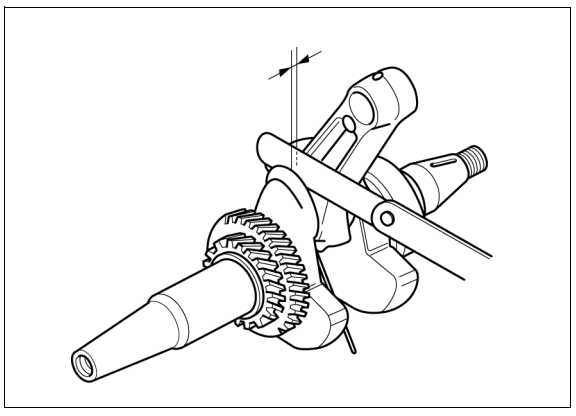
CONNECTING ROD BIG END SIDE CLEARANCE

Measure the clearance between the connecting rod big end and crankshaft using a feeler gauge.

STANDARD: 0.1 – 0.4 mm (0.004 – 0.016 in)
SERVICE LIMIT: 1.0 mm (0.04 in)

If the measurement is more than the service limit, replace the connecting rod (page 14-6) and recheck the clearance.

If the clearance is still more than the service limit with the new connecting rod, replace the crankshaft (page 14-4).



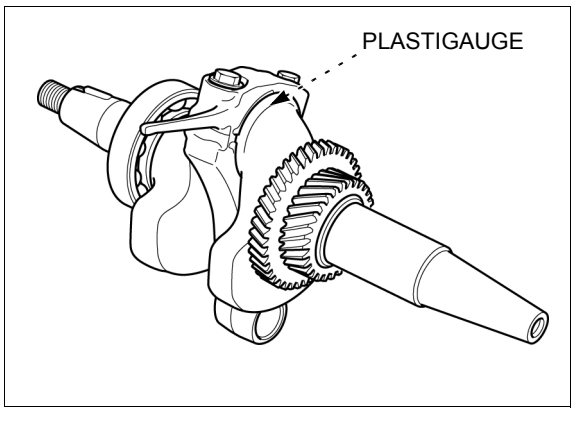
CONNECTING ROD BIG END OIL CLEARANCE

Clean all oil from the crank pin and connecting rod big end surface.

Place a piece of plastigauge on the crank pin, install the connecting rod upper and the connecting rod lower.
Apply engine oil to the connecting rod bolt threads and seating surface.
Tighten the connecting rod bolts to the specified torque.

TORQUE: 14 N·m (1.4 kgf·m, 10 lbf·ft)

NOTE:
Do not rotate the crankshaft while the plastigauge is in place.



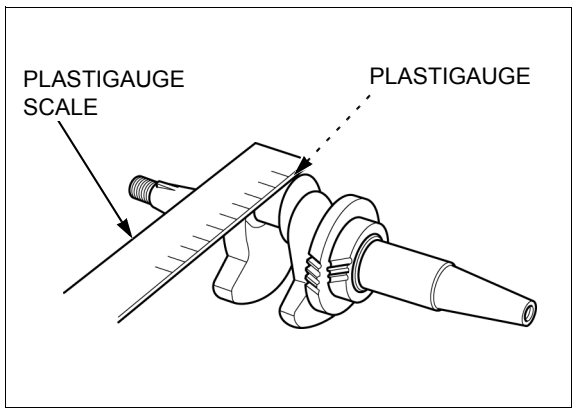
Remove the connecting rod and measure the plastigauge.

STANDARD: 0.040 – 0.064 mm (0.0016 – 0.0025 in)
SERVICE LIMIT: 0.12 mm (0.005 in)

If the clearance is more than the service limit, inspect the following:

- Connecting rod big end I.D. (page 14-11)
- Crank pin O.D. (page 14-12)

If the part that is not within the service limit replaces a new one, reinspect the clearance.



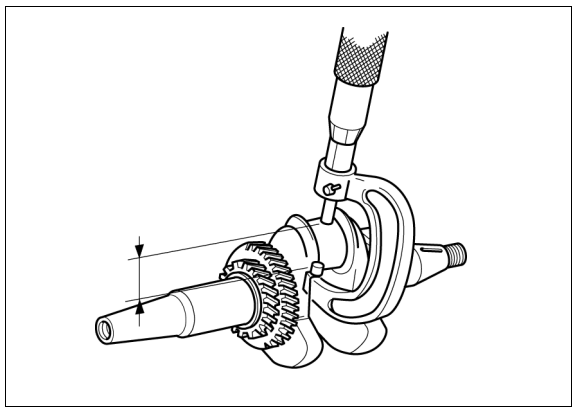
CRANK PIN O.D.

Measure the crank pin O.D. of the crankshaft.

EG3600CX/EG4000CX:
STANDARD: 32.975 – 32.985 mm (1.2982 – 1.2986 in)
SERVICE LIMIT: 32.92 mm (1.296 in)

Except EG3600CX/EG4000CX:
STANDARD: 35.975 – 35.985 mm (1.4163 – 1.4167 in)
SERVICE LIMIT: 35.93 mm (1.415 in)

If the measurement is less than the service limit, replace the crankshaft (page 14-4).



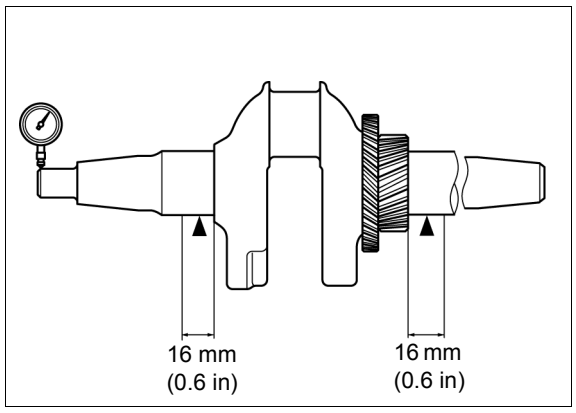
CRANKSHAFT RUNOUT

Remove the crankshaft bearing (page 14-18).

Set the crankshaft on V-blocks and measure the runout using a dial indicator.

SERVICE LIMIT: 0.1 mm (0.004 in)

If the measured runout is more than the service limit, replace the crankshaft (page 14-4).

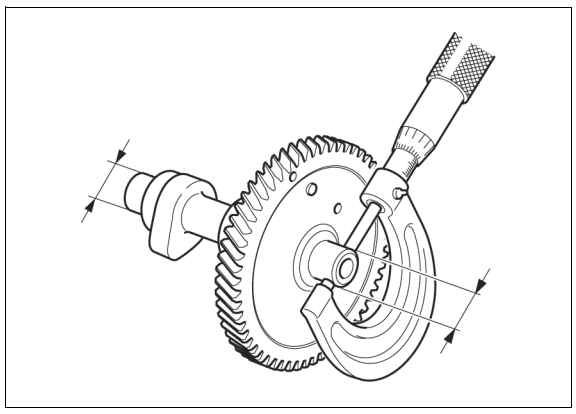


CAMSHAFT O.D.

Measure the camshaft O.D. of the camshaft.

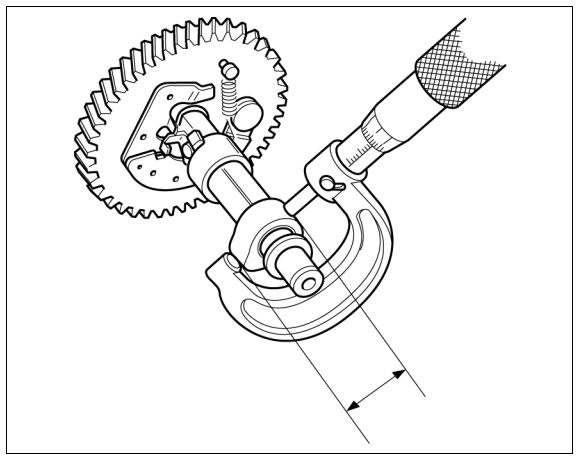
STANDARD: 15.966 – 15.984 mm (0.6286 – 0.6293 in)
SERVICE LIMIT: 15.92 mm (0.627 in)

If the measurement is less than the service limit, replace the camshaft (page 14-4).



CAMSHAFT CAM HEIGHT

Measure the cam height of the camshaft.



EG3600CX/EG4000CX:

STANDARD:	**IN:**	**31.524 – 31.924 mm (1.2411 – 1.2568 in)**
	EX:	**31.564 – 31.964 mm (1.2427 – 1.2584 in)**
SERVICE LIMIT:	**IN:**	**31.22 mm (1.229 in)**
	EX:	**31.26 mm (1.231 in)**

EG4500CX/EG5000CX:

STANDARD:	**IN:**	**31.846 – 32.246 mm (1.2538 – 1.2695 in)**
	EX:	**31.567 – 31.967 mm (1.2428 – 1.2585 in)**
SERVICE LIMIT:	**IN:**	**31.55 mm (1.242 in)**
	EX:	**31.27 mm (1.231 in)**

EG5500CX/EG6500CX/EG5500CXS/EG6500CXS:

STANDARD:	**IN:**	**32.398 – 32.798 mm (1.2755 – 1.2913 in)**
	EX:	**31.886 – 32.286 mm (1.2554 – 1.2711 in)**
SERVICE LIMIT:	**IN:**	**32.10 mm (1.264 in)**
	EX:	**31.59 mm (1.244 in)**

If the measurement is less than the service limit, replace the camshaft (page 14-4).

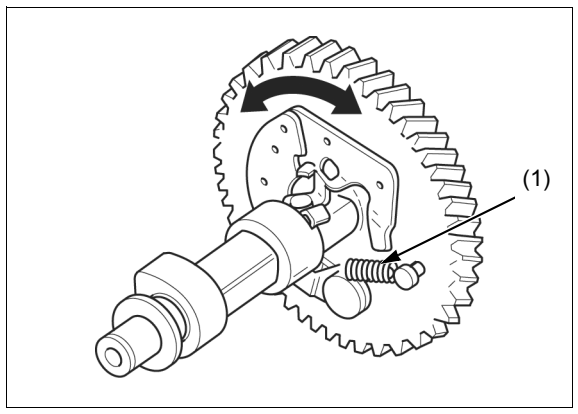
DECOMPRESSOR WEIGHT

Check for worn and weakened spring.

If the return spring (1) is worn or weakened, replace the weight return spring.

Check that the decompressor weight moves smoothly.

If the decompressor weight does not move correctly, replace the camshaft (page 14-4).

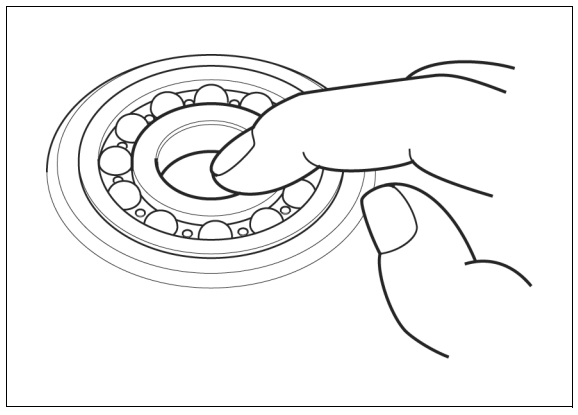


RADIAL BALL BEARING

Clean the bearing with solvent and dry it thoroughly.

Turn the inner race (outer race: cylinder barrel side crankshaft bearing only) of the radial ball bearing with your finger and check for play.

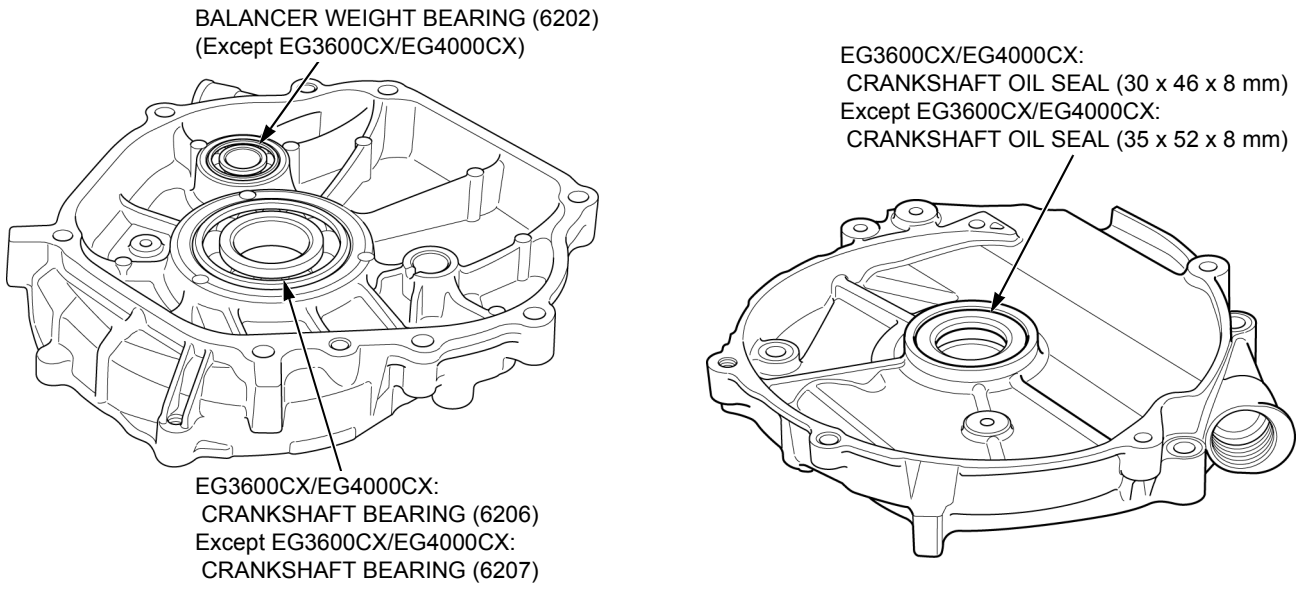
If it is noisy or has excessive play, replace the radial ball bearing (page 14-14).



BEARING/OIL SEAL REPLACEMENT

CRANKCASE COVER

LOCATION



BALANCER WEIGHT BEARING (Except EG3600CX/EG4000CX)

Pull out the radial ball bearing (1) using the special tools.

TOOLS:

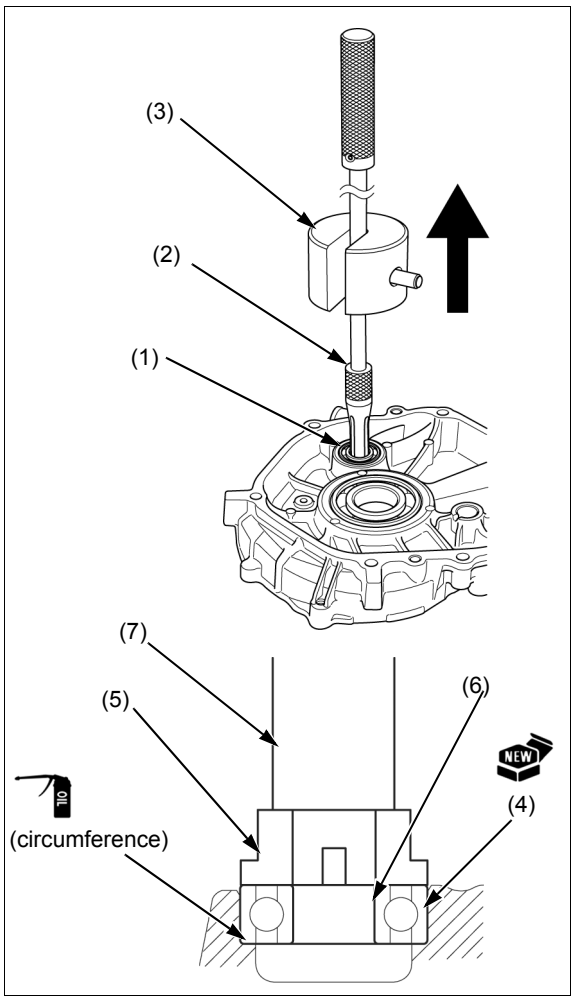
Bearing remover shaft, 15 mm (2)	**07936-KC10500**
Remover weight (3)	**07741-0010201**

Apply oil to the circumference of a new bearing (4).

Drive the radial ball bearing until it is fully seated on the end using the special tools.

TOOLS:

Attachment, 32 × 35 mm (5)	**07746-0010100**
Pilot, 15 mm (6)	**07746-0040300**
Driver (7)	**07749-0010000**



CRANKSHAFT BEARING

Drive out the radial ball bearing (1).

Apply oil to the circumference of a new bearing (2).

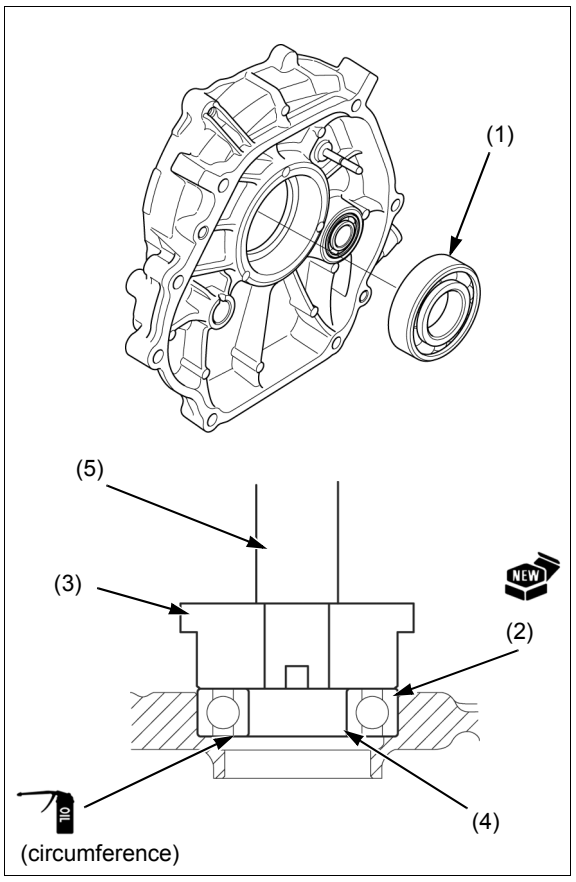
Drive the radial ball bearing until it is fully seated on the end using the special tools.

EG3600CX/EG4000CX:

TOOLS:	
Attachment, 62 × 68 mm (3)	**07746-0010500**
Pilot, 30 mm (4)	**07746-0040700**
Driver (5)	**07749-0010000**

Except EG3600CX/EG4000CX:

TOOLS:	
Attachment, 72 × 75 mm (3)	**07746-0010600**
Pilot, 35 mm (4)	**07746-0040800**
Driver (5)	**07749-0010000**



CRANKSHAFT OIL SEAL

Remove the oil seal from the crankcase cover.

Apply grease to the lip of a new oil seal (1).

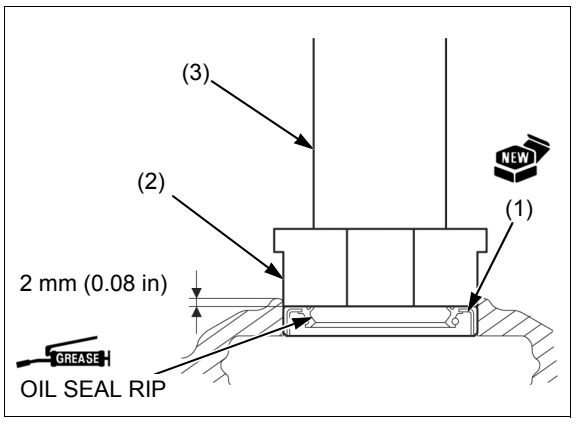
Drive the oil seal in the position as shown using the special tools.

EG3600CX/EG4000CX:

TOOLS:	
Attachment, 45 × 50 mm (2)	**07946-6920100**
Driver (3)	**07749-0010000**

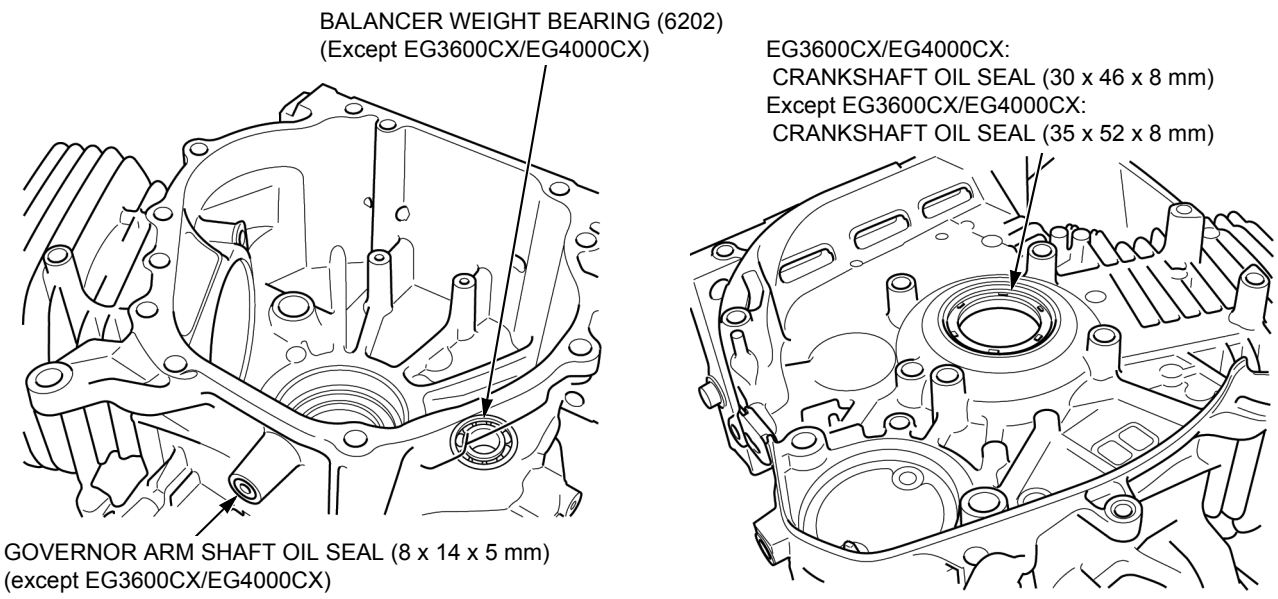
Except EG3600CX/EG4000CX:

TOOLS:	
Attachment, 52 × 55 mm (2)	**07746-0010400**
Driver (3)	**07749-0010000**



CYLINDER BARREL

LOCATION



BALANCER WEIGHT BEARING (Except EG3600CX/ EG4000CX)

Pull out the radial ball bearing (1) using the special tools.

TOOLS:

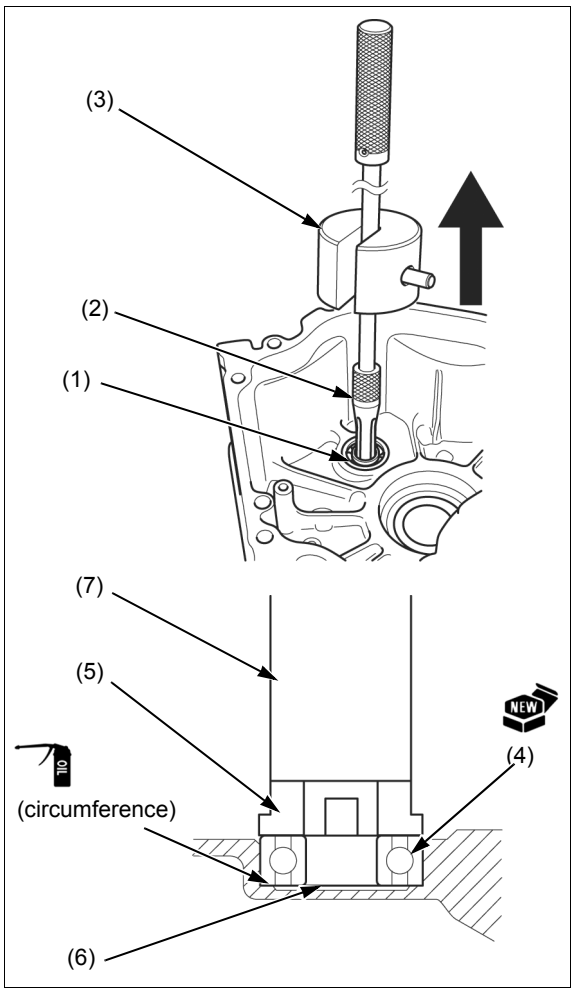
Bearing remover shaft, 15 mm (2)	**07936-KC10500**
Remover weight (3)	**07741-0010201**

Apply oil to the circumference of a new bearing (4).

Drive the radial ball bearing until it is fully seated on the end using the special tools.

TOOLS:

Attachment, 32 × 35 mm (5)	**07746-0010100**
Pilot, 15 mm (6)	**07746-0040300**
Driver (7)	**07749-0010000**



GOVERNOR ARM SHAFT OIL SEAL (except EG3600CX/EG4000CX)

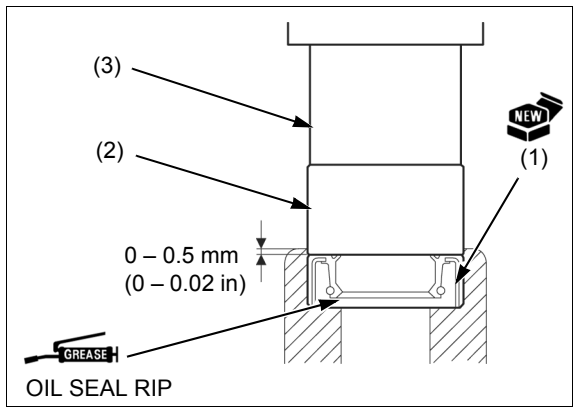
Remove the oil seal from the cylinder barrel.

Apply grease to the lip of a new oil seal (1).

Drive the oil seal in the position as shown using the special tools.

TOOLS:

Pilot, 14 mm (2)	**07746-0041200**
Driver (3)	**07749-0010000**



OIL SEAL RIP

CRANKSHAFT OIL SEAL

Remove the oil seal from the cylinder barrel.

Apply grease to the lip of a new oil seal (1).

Drive the oil seal in the position as shown using the special tools.

EG3600CX/EG4000CX:

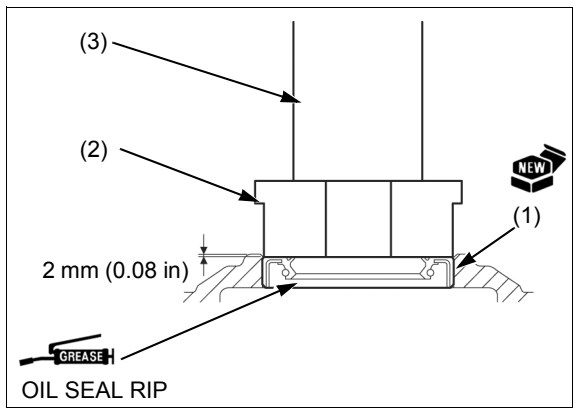
TOOLS:

Attachment, 45 × 50 mm (2)	**07946-6920100**
Driver (3)	**07749-0010000**

Except EG3600CX/EG4000CX:

TOOLS:

Attachment, 52 × 55 mm (2)	**07746-0010400**
Driver (3)	**07749-0010000**



OIL SEAL RIP

CRANKSHAFT

CRANKSHAFT BEARING

Install the 16 mm special nut (1) tightening the flywheel to protect the crankshaft threads.

Pull out the radial ball bearing (2) using a commercially available bearing puller (3).

Apply oil to the inner surface of the new bearing (4) inner race (5).

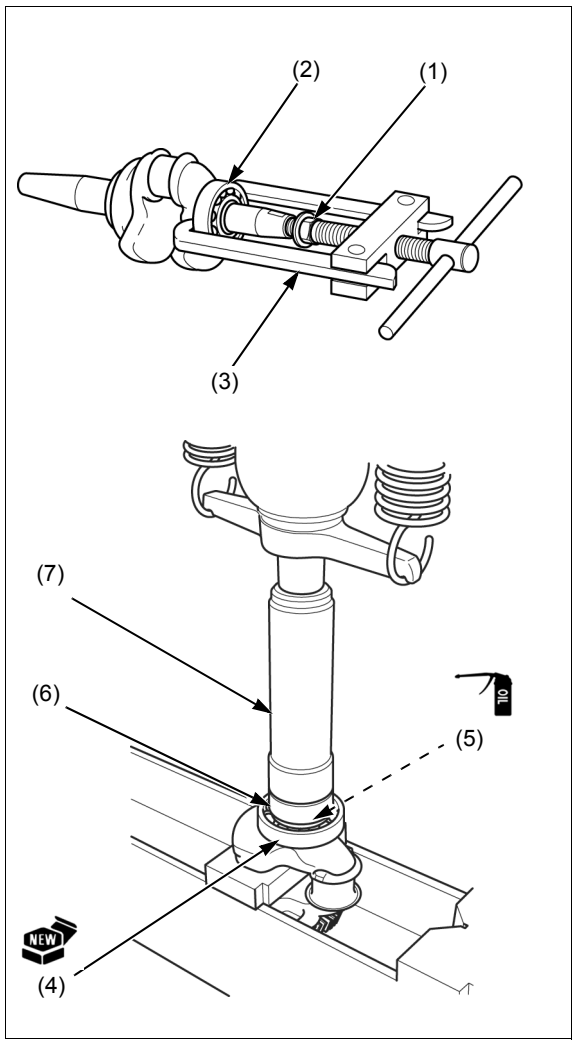
Drive the radial ball bearing until it is fully seated on the end using the special tools and hydraulic press.

EG3600CX/EG4000CX:

TOOLS:	
Driver attachment, 30 mm I.D. (6)	**07746-0030300**
Driver, 40 mm I.D. (7)	**07746-0030100**

Except EG3600CX/EG4000CX:

TOOLS:	
Driver attachment, 35 mm I.D. (6)	**07746-0030400**
Driver, 40 mm I.D. (7)	**07746-0030100**



15. TECHNICAL FEATURES

D-AVR (Digital Auto Voltage Regulator)

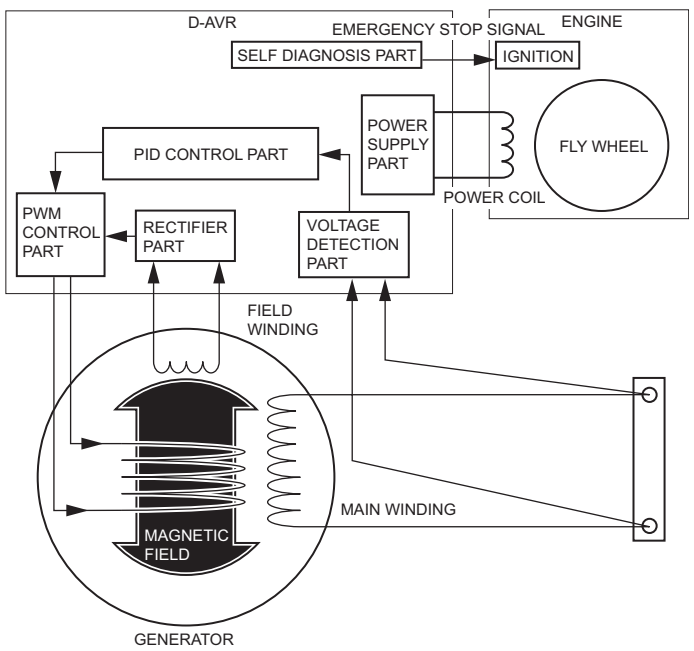
OUTLINE

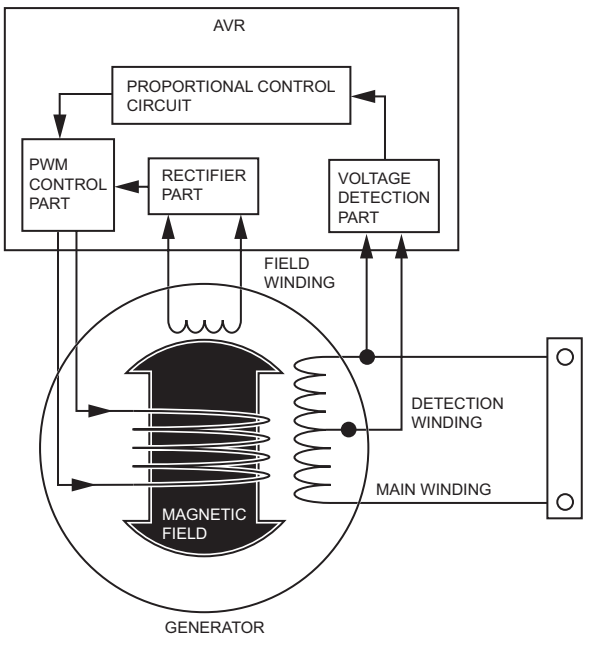
This model is equipped with D-AVR (Digital Auto Voltage Regulator) which improves the output capability.

SYSTEM

The conventional analog AVR relies upon a detection winding to detect the output voltage, which is prone to be affected by the change of temperature and load current.

D-AVR uses an output terminal, eliminating the need of detection winding, which enables more reliable output voltage detection without being affected by the change of temperature or load current.
A power coil is installed beside the flywheel in order to provide a power supply for the D-AVR control.



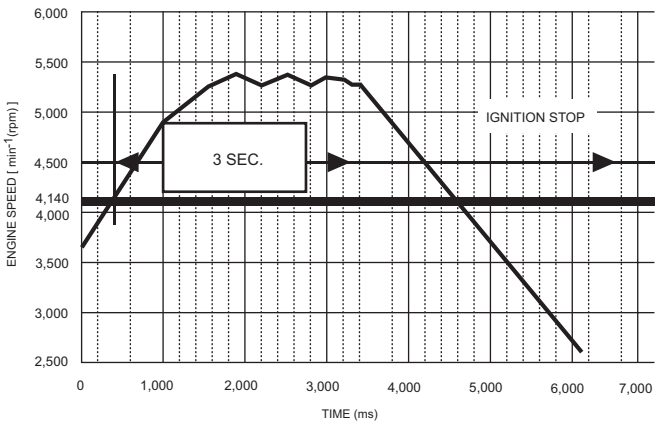


SELF DIAGNOSIS FUNCTION

D-AVR has built-in self diagnosis function, which stops generating voltage by stopping the engine, when abnormal condition of the generator is detected.

OVER-REVVING DETECTING FUNCTION:

This function stops generating voltage by stopping the engine, when the engine speed exceeds the specified speed [4,140 min^{-1} (rpm)] for more than three seconds continuously.



ABNORMAL VOLTAGE (EXCESSIVE AC VOLTAGE) DETECTING FUNCTION:

This function stops generating voltage by stopping the engine, when the output voltage exceeds the specified voltage (150% of the rated voltage) for more than 0.5 seconds continuously.

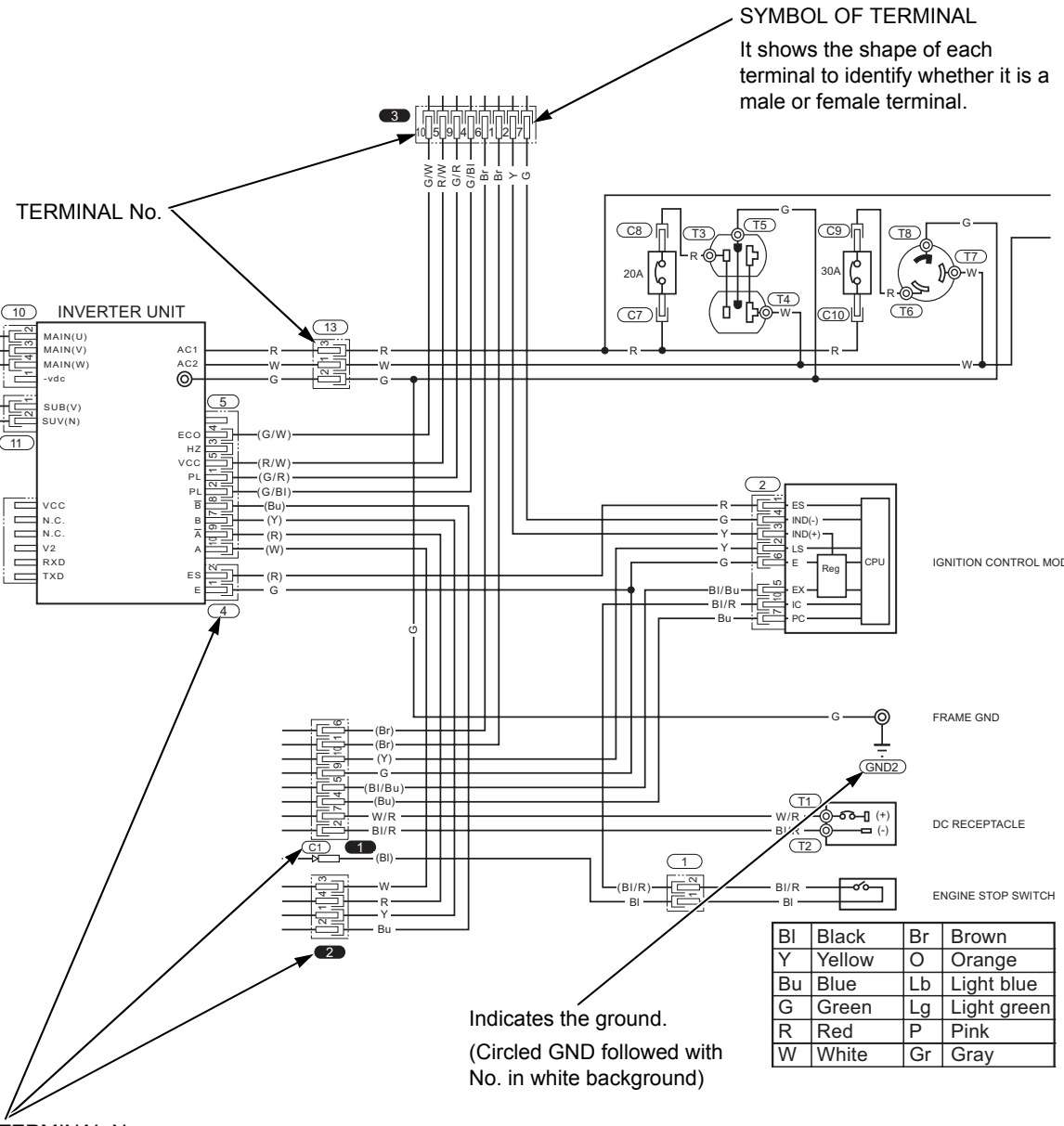
16. WIRING DIAGRAMS

WIRING DIAGRAMS

HOW TO READ A WIRING DIAGRAM & RELATED INFORMATION

The wiring diagram, connector general layout drawing, connector drawings, and the symbols used in troubleshooting are explained in this section.

HOW TO READ WIRING DIAGRAM



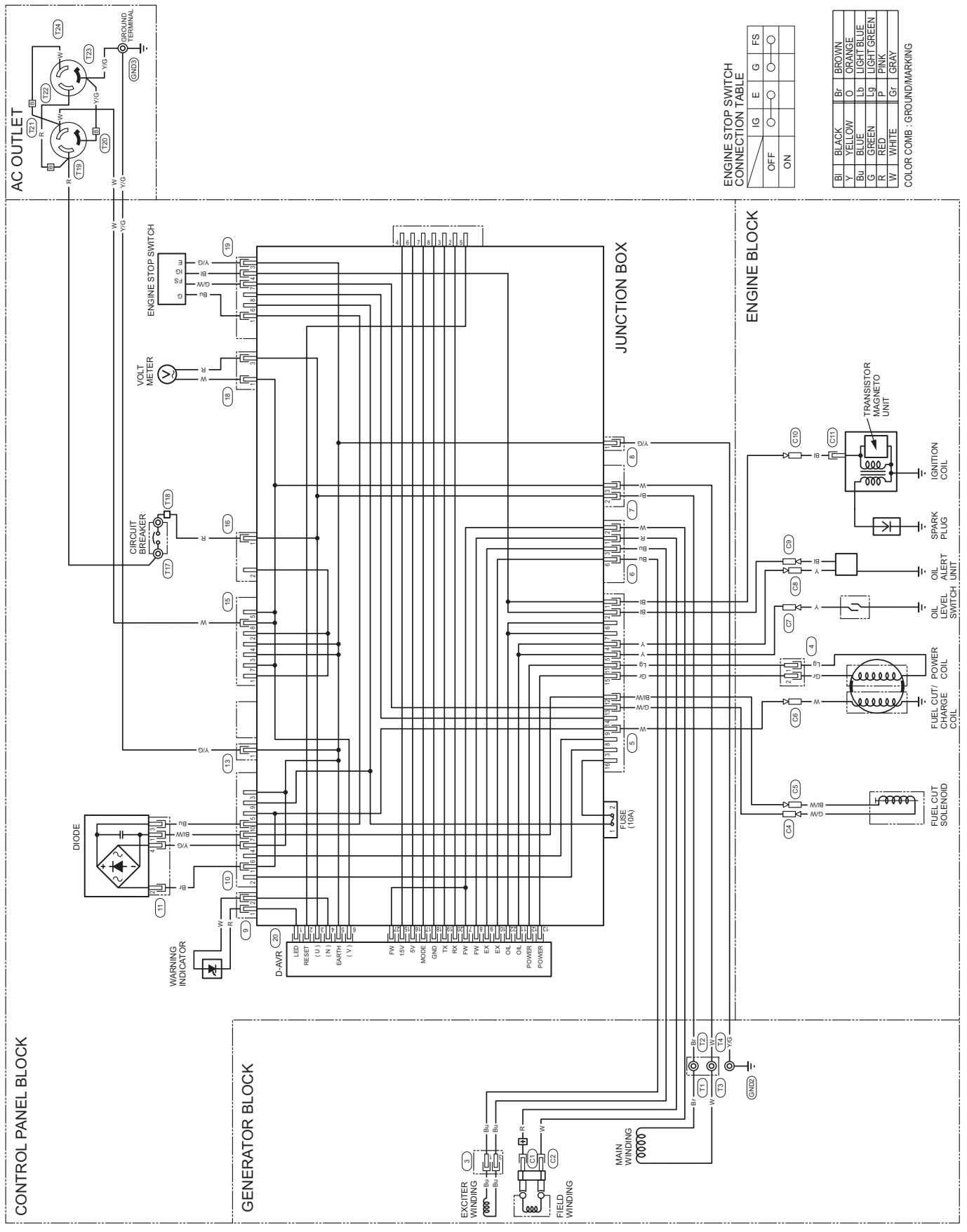
Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

Every connector and terminal has a number to help the users find the location and shape of the connector and the terminal arrangement by referring to the “Connector general layout drawing” and/or the “Connector drawing”. All the connector/terminal numbers shown in this Service Manual are either of those shown in this section.

- 1 : Connector that relays from a harness to a harness (Circled No. in black background)
- (1) : Connector that connects to electrical equipment (Circled No. in white background)
- (C1) : Connector (Circled C followed with No. in white background)
- (T1) : Terminal (Circled T followed with No. in white background)
- (GND1) : Ground (Circled GND followed with No. in white background)

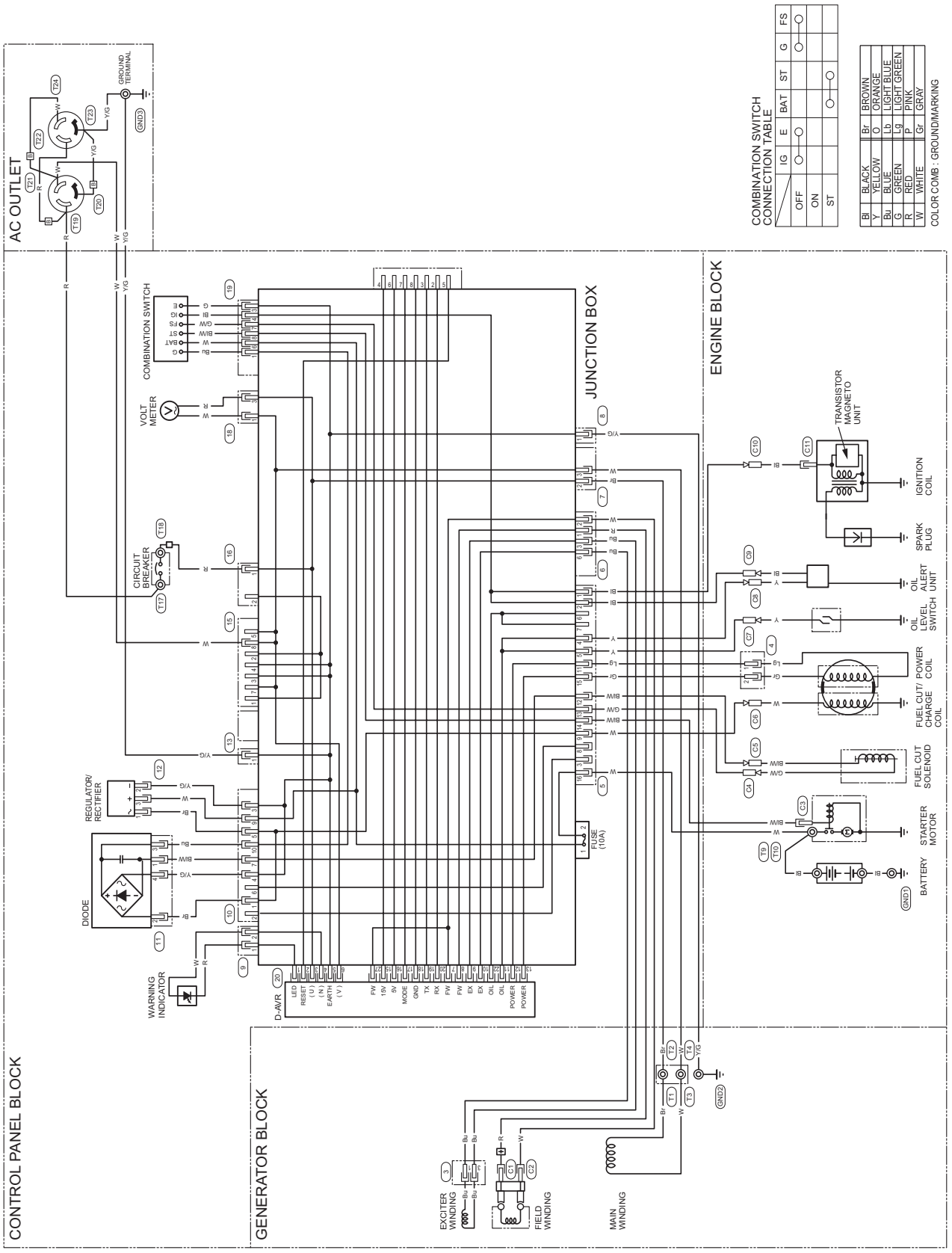
WIRING DIAGRAMS

CX-RHH TYPE

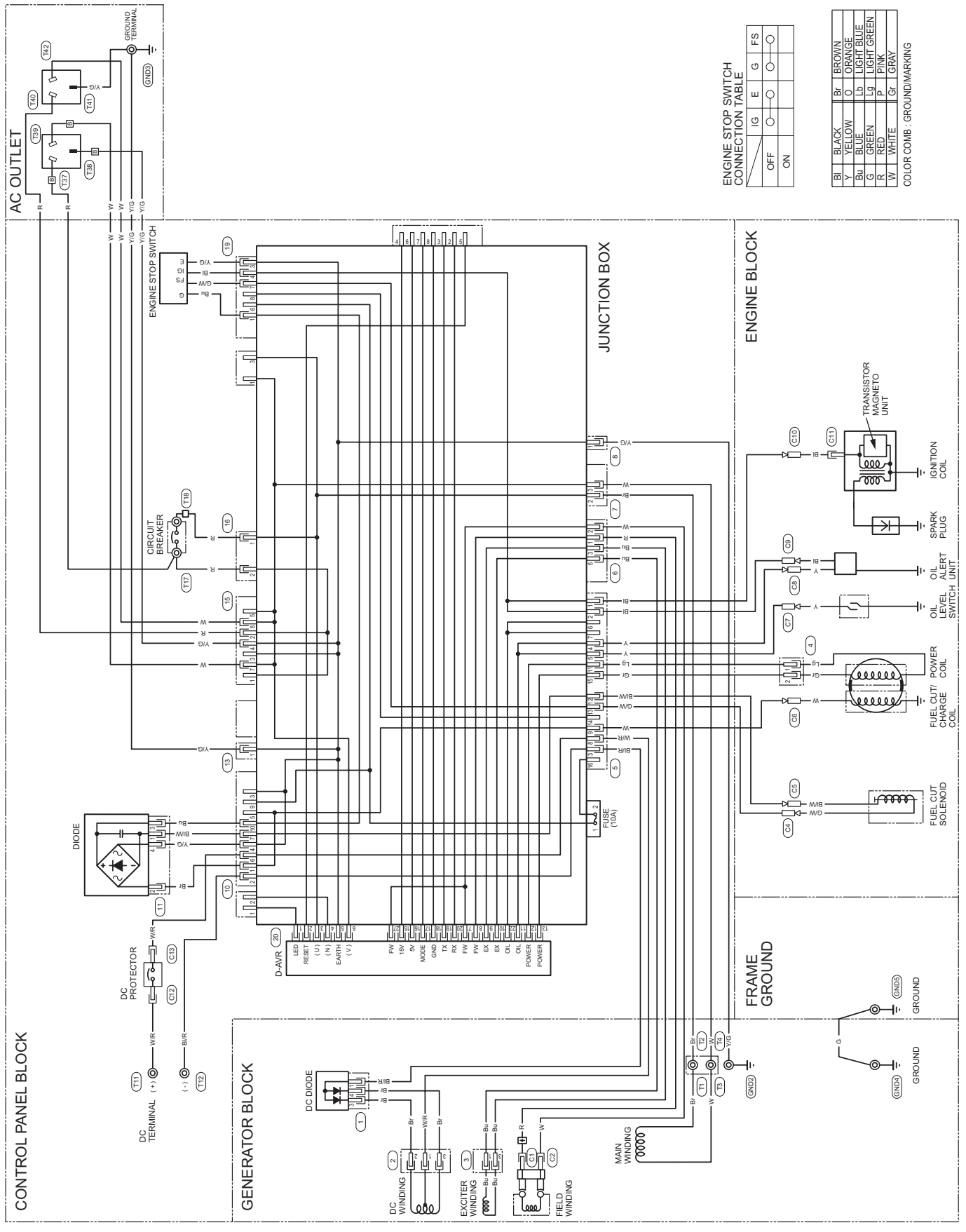


WIRING DIAGRAMS

CXS-RHH TYPE

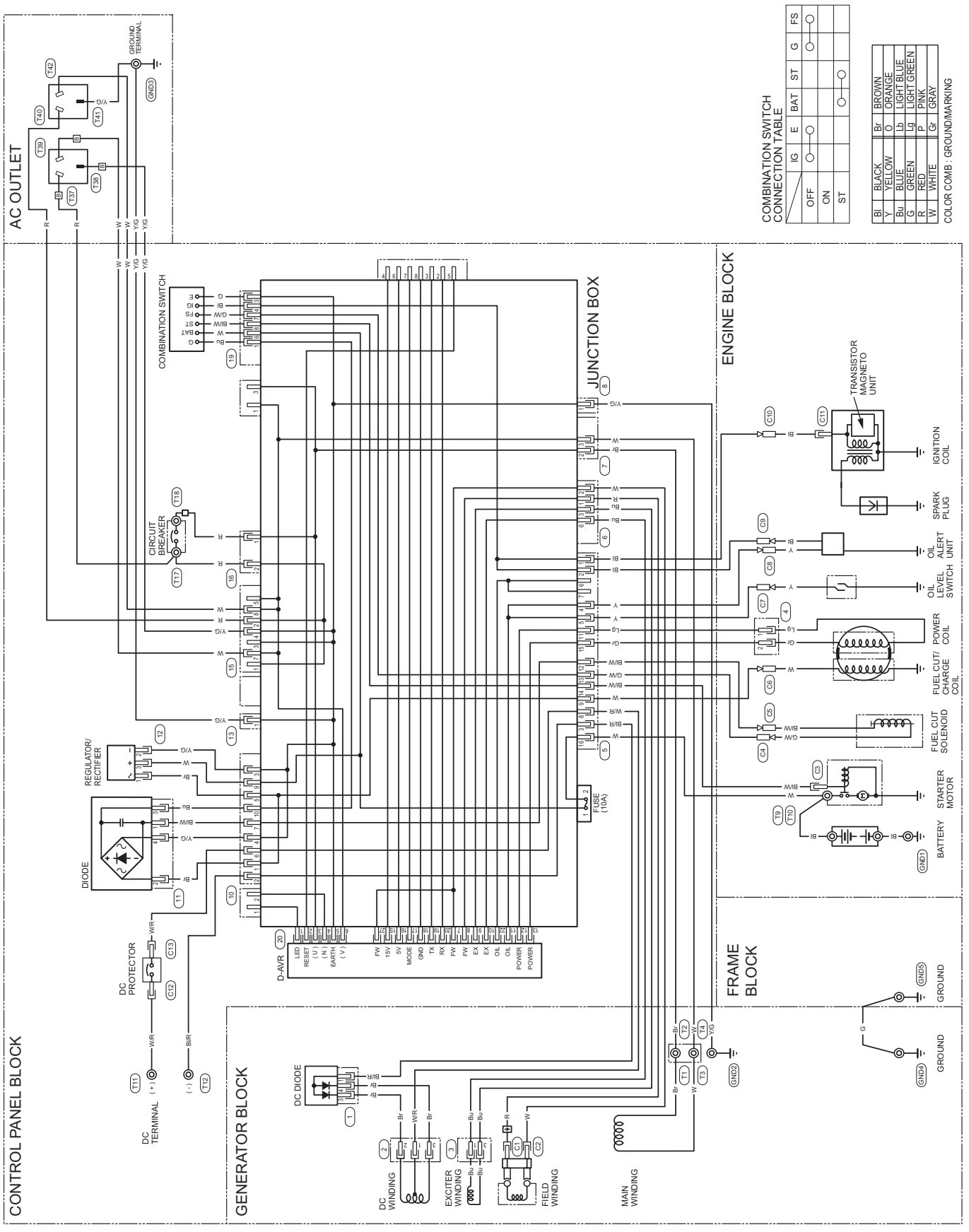


CX-UH TYPE

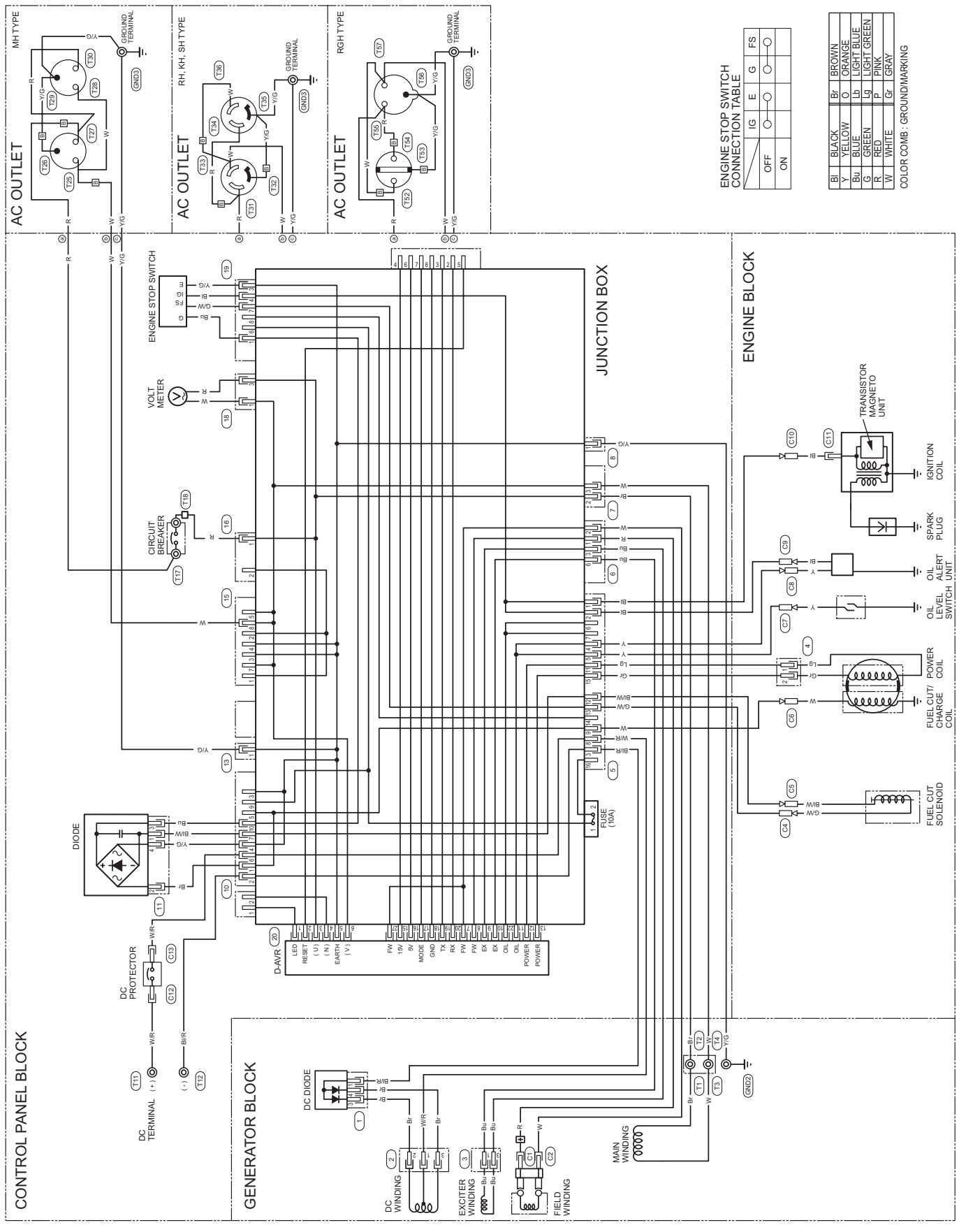


WIRING DIAGRAMS

CXS-UH TYPE

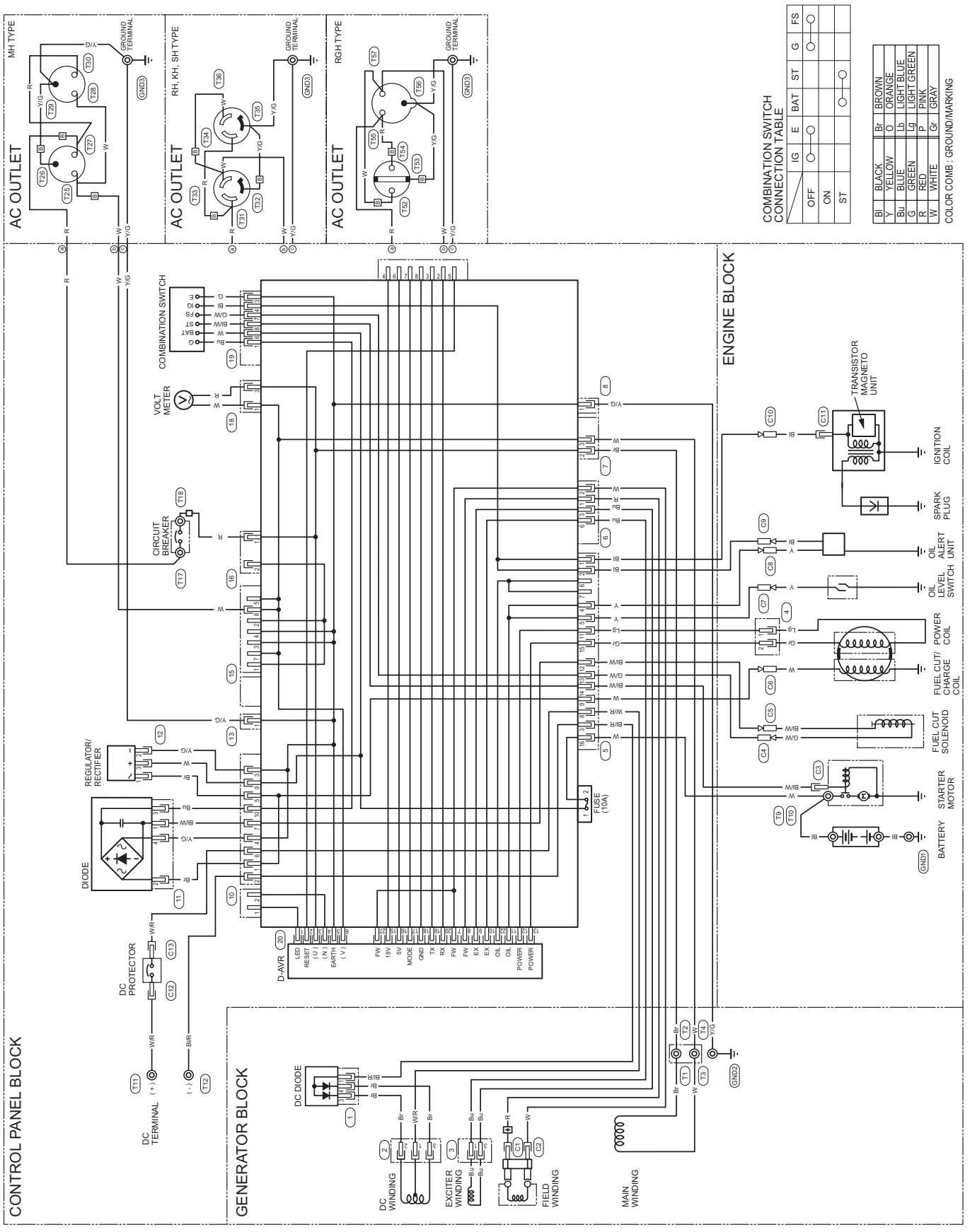


CX-MH, RH, KH, SH, RGH TYPE

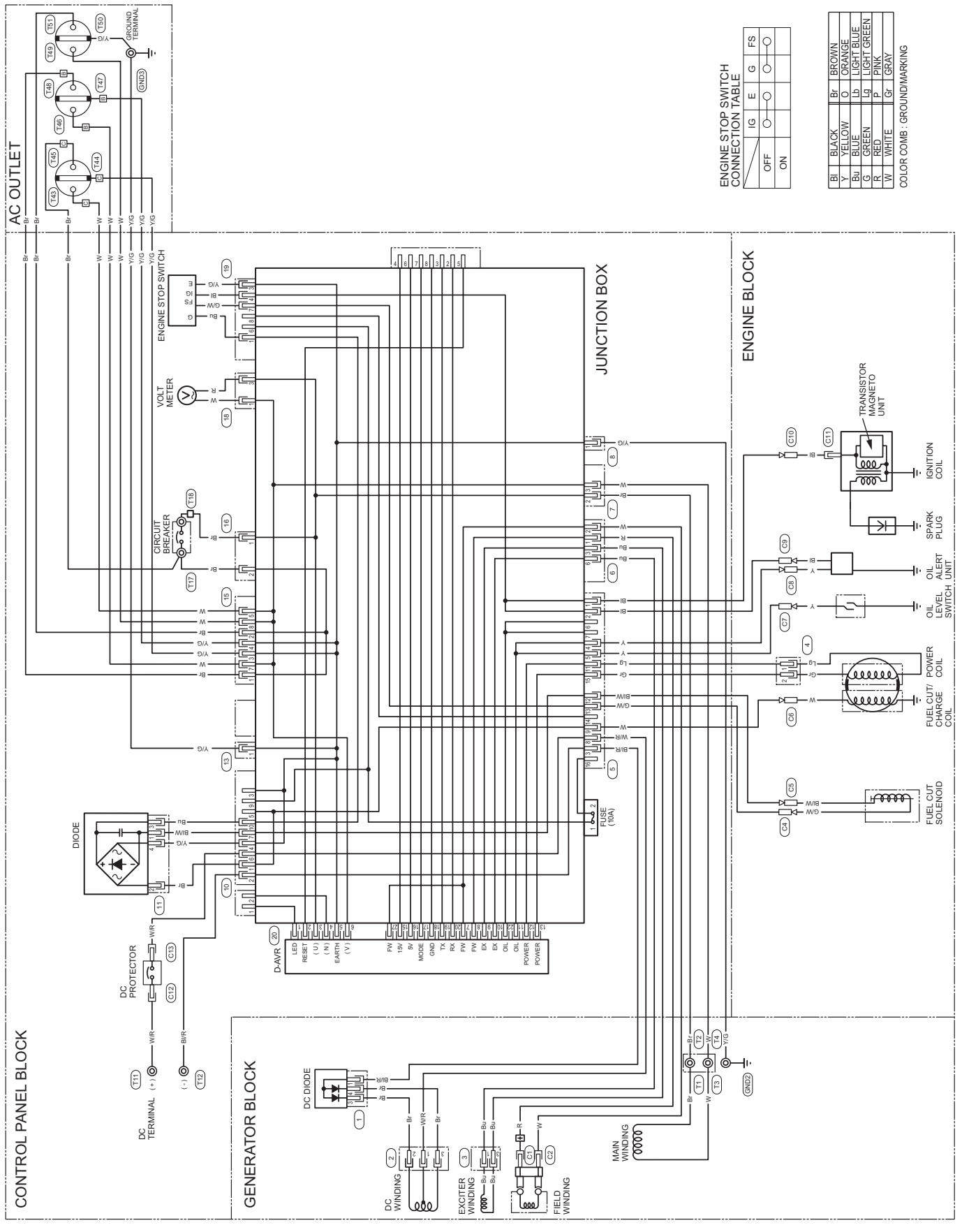


WIRING DIAGRAMS

CXS-MH, RH, KH, SH, RGH TYPE

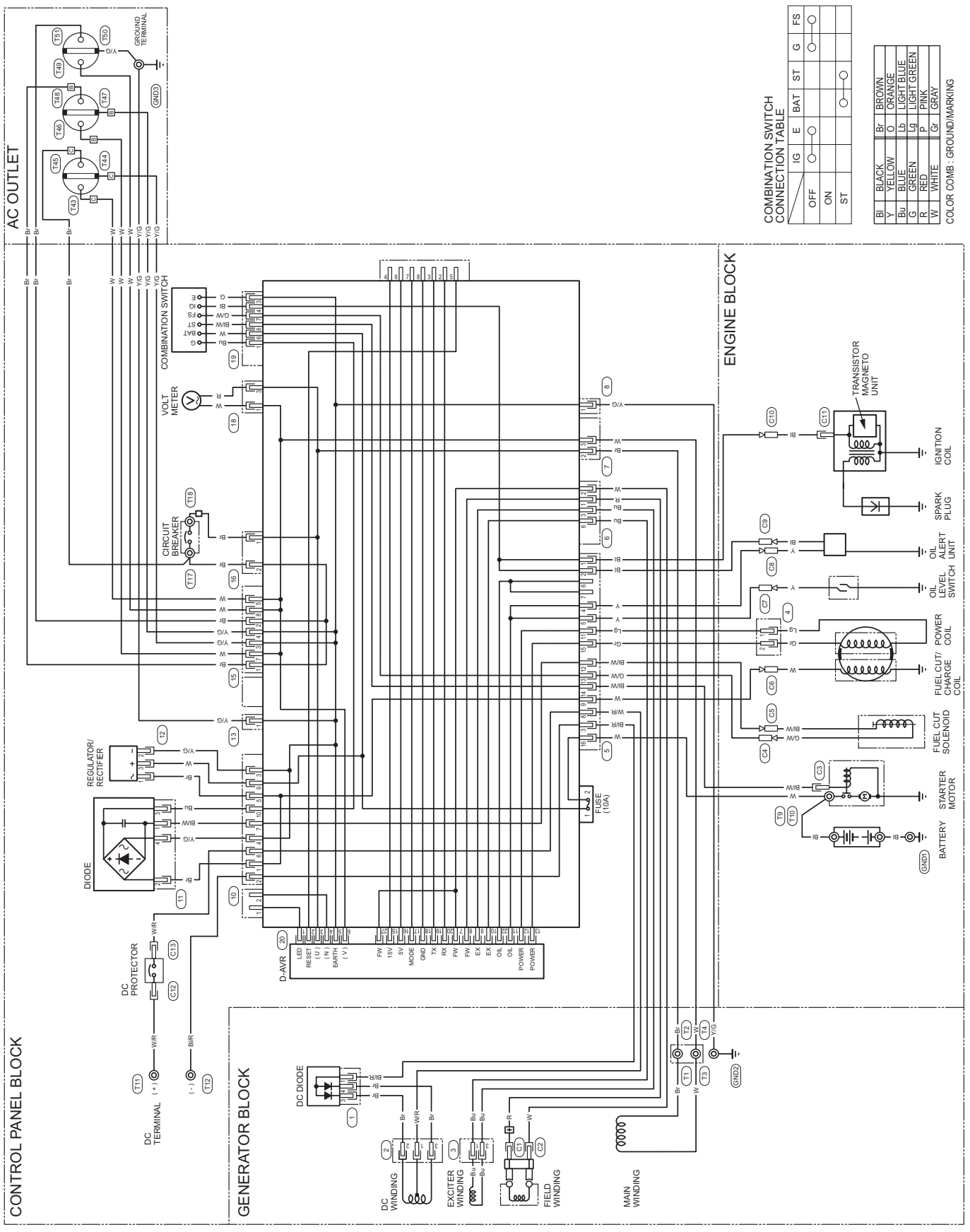


CX-SKH TYPE

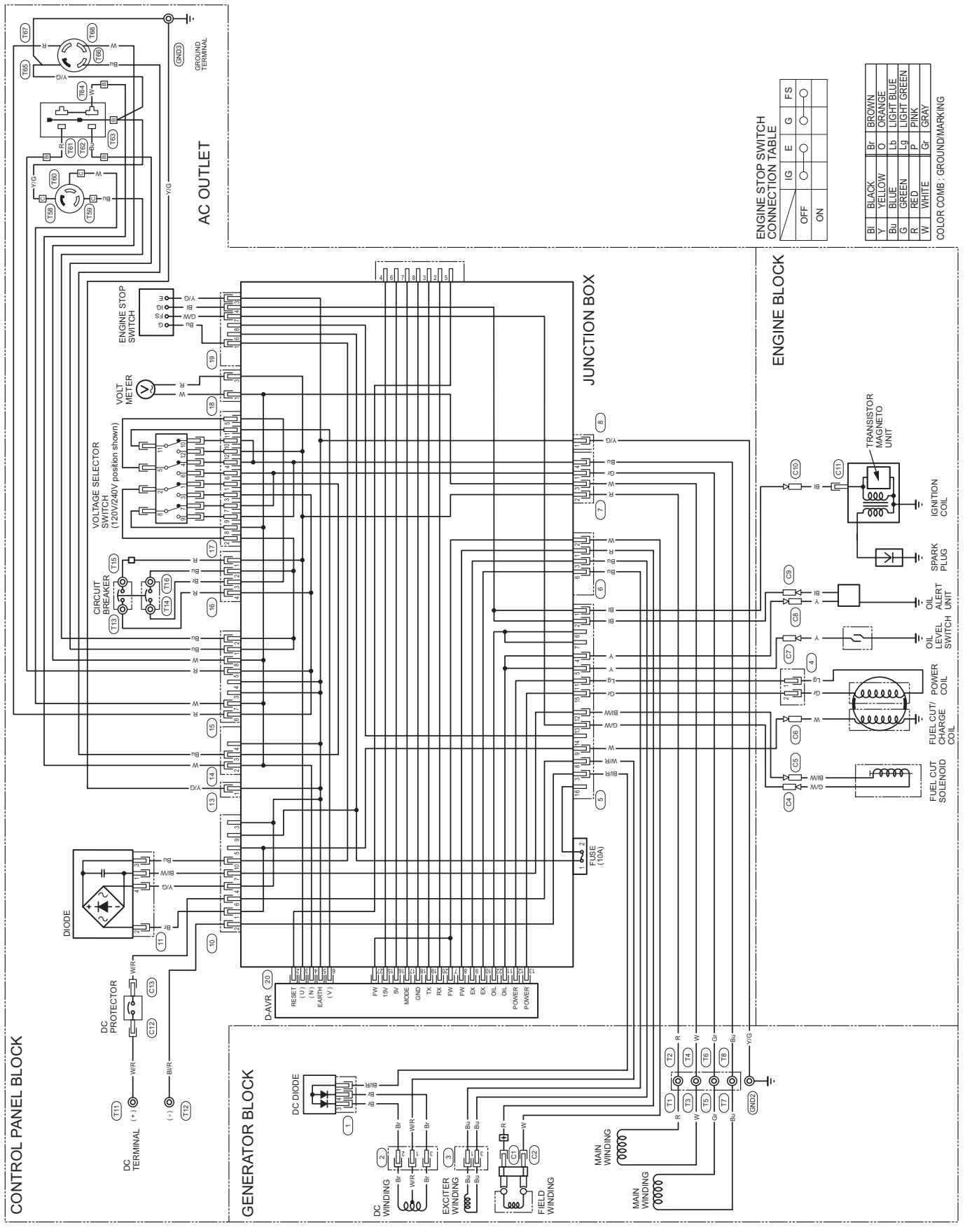


WIRING DIAGRAMS

CXS-SKH TYPE

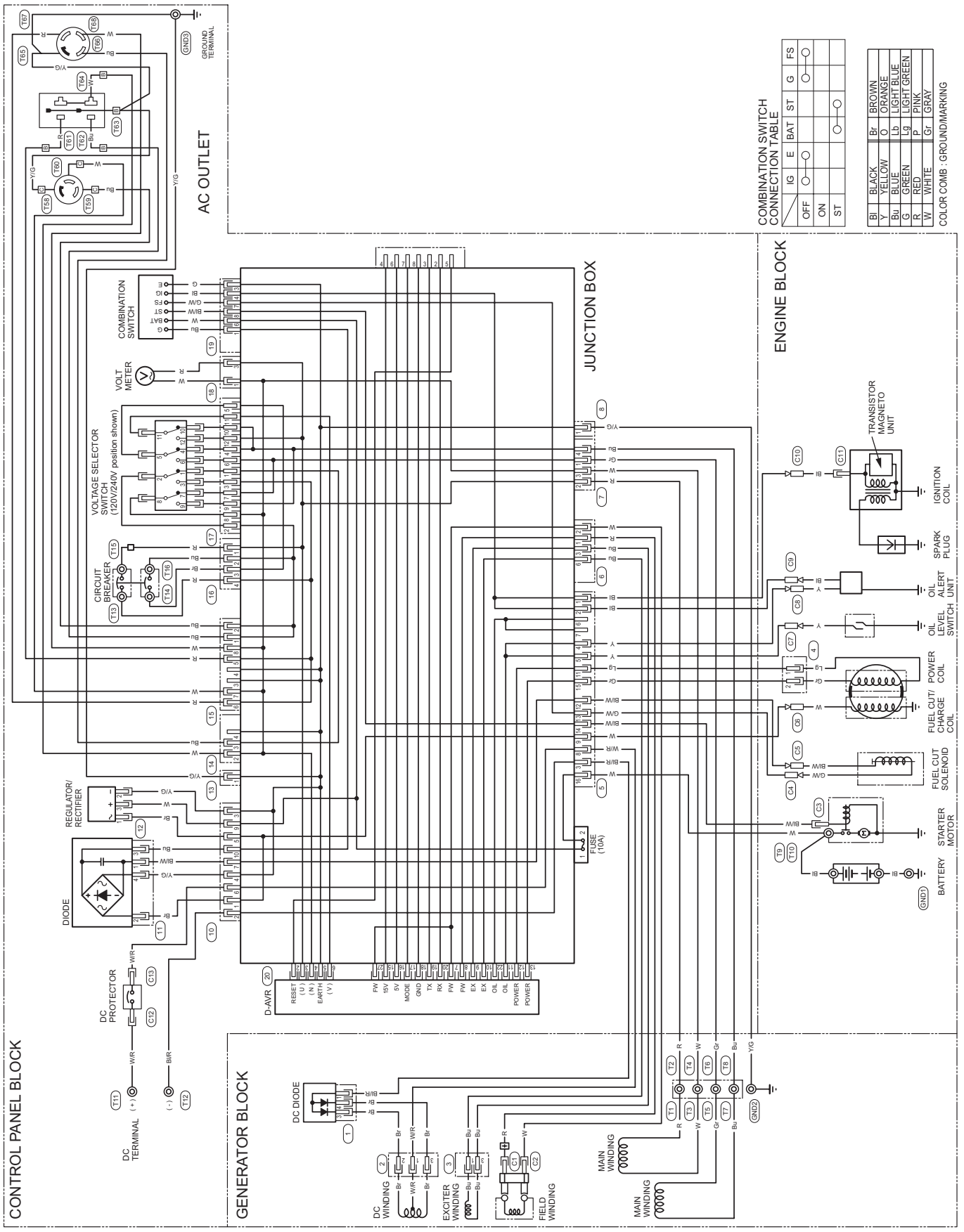


CX-LDH, LTH TYPE



WIRING DIAGRAMS

CXS-LDH, LTH TYPE



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