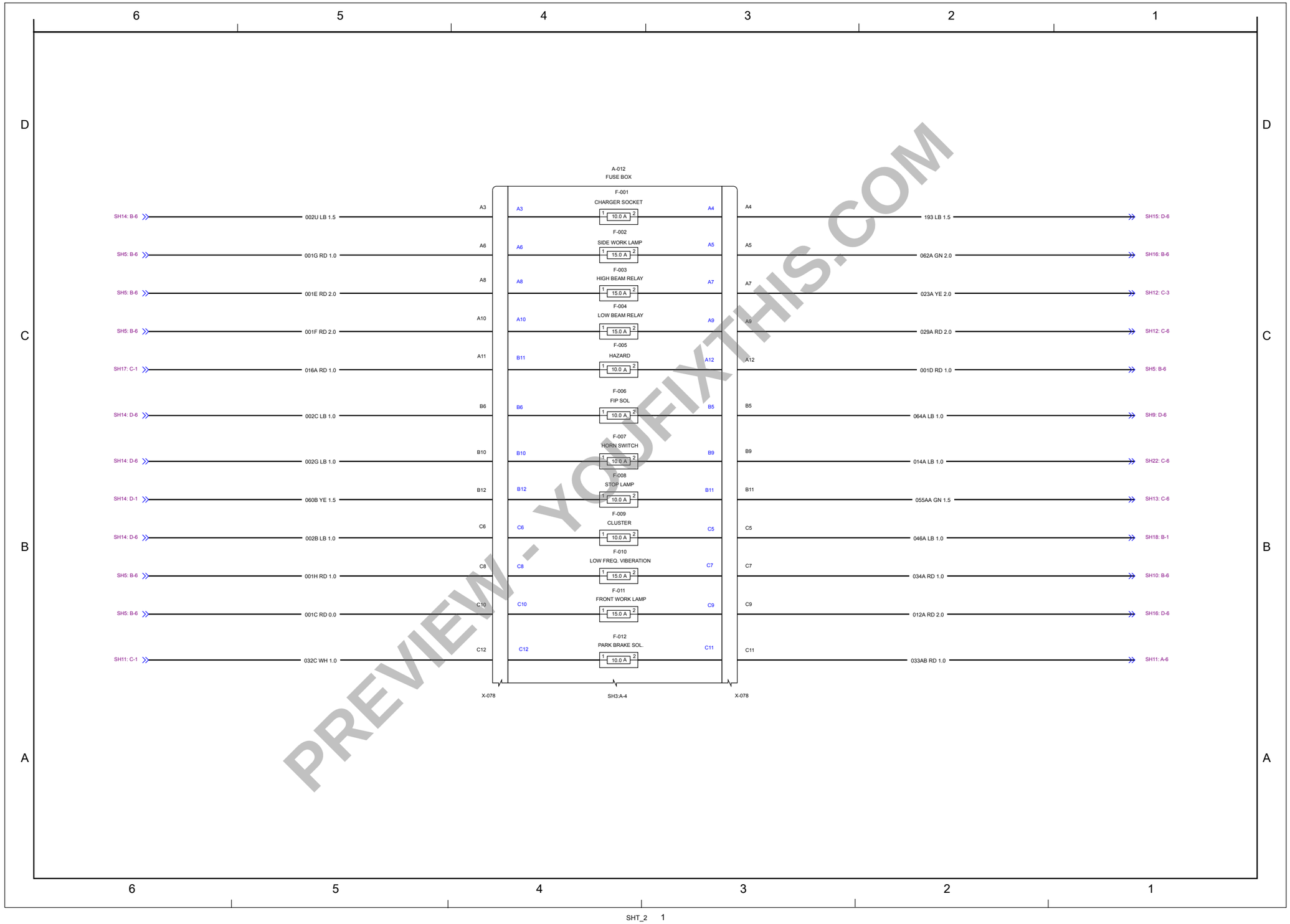
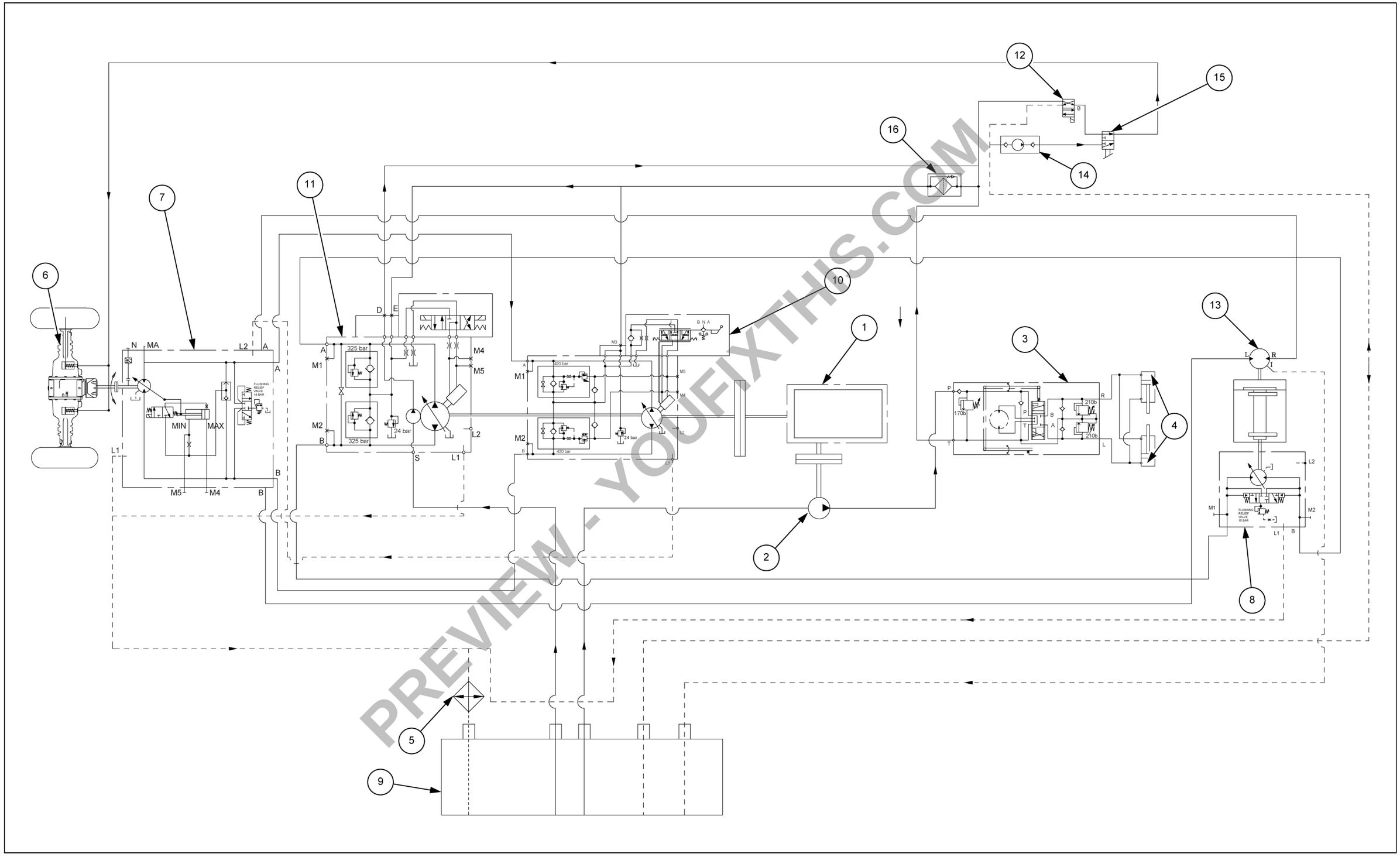


PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

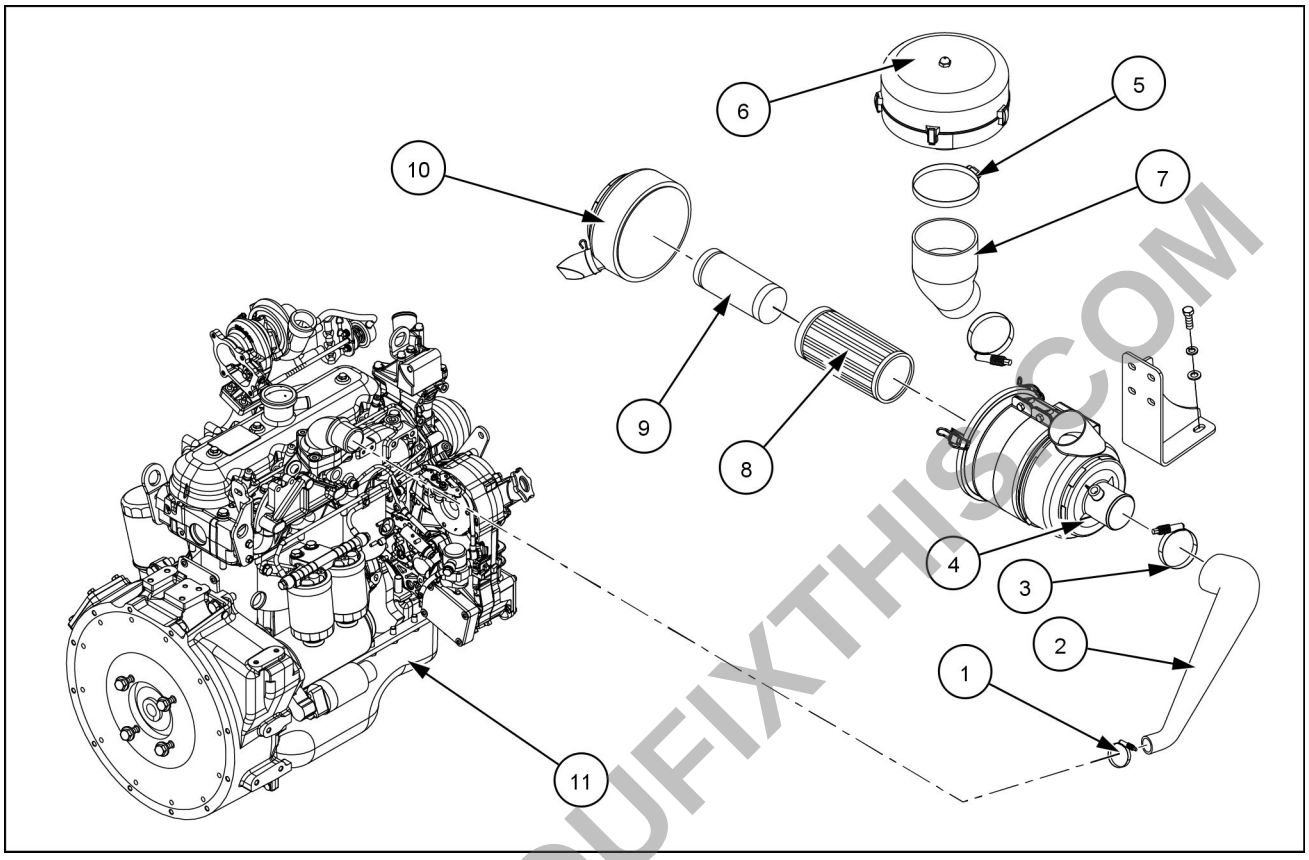


PREVIEW - YOUFIXTHIS.COM

PTIL15COM2184JB 1

Download full manual at youfixthis.com

Air pre-cleaner - Exploded view



PTIL16TLB0328FB 1

1. C-clamp
2. Hose air cleaner
3. T-bolt clamp **138 mm** (**5 in**)
4. Switch-air filter clog indicator
5. T-bolt clamp **138 mm** (**5 in**)
6. Air pre-cleaner
7. Hose pre-cleaner
8. Air cleaner primary element
9. Air cleaner safety element
10. Air cleaner
11. Engine

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Torque - Minimum tightening torques for normal assembly

METRIC NON-FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

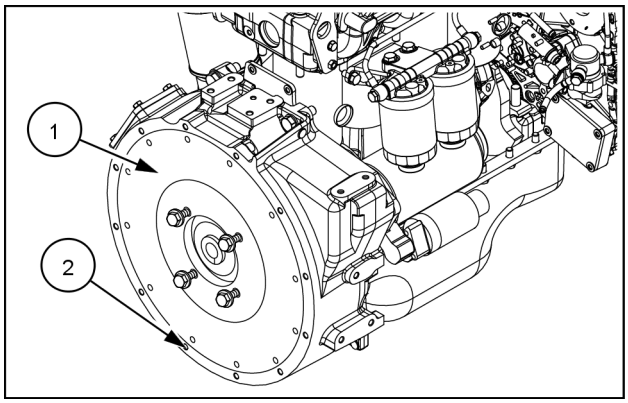
NOTE: *M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.*

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Engine and crankcase - Remove

1. Remove the hood, refer to **Engine shields, hood latches, and trims - Remove - Hood Removal (90.102)**.
2. Remove the receiver drier from the engine. Refer **Air conditioning - Remove - Receiver drier (50.200)**.
3. Remove the condenser from the engine. Refer **Air-conditioning condenser - Remove (50.200)**.
4. Remove the cooling pack. Refer **Engine cooling system - Remove - Cooling pack (10.400)**.
5. Loosen and remove the thermostat mounting hose connections and cap the openings.
6. Disconnect the alternator connections. Refer **Alternator - Remove (55.301)**.
7. Disconnect the engine oil pressure sensor connection.
8. Loosen the clamp and remove the silencer assembly. Refer **Exhaust pipes - Remove (10.254)**
9. All the hydraulic and oil connector openings to be covered properly to avoid entry of dust.
10. Disconnect the clog indicator connection and remove the air filter assembly with housing and pipes to intake manifold. Refer **Air pre-cleaner - Exploded view (10.202)**
11. Disconnect all the starter connections. Refer **Engine starter - Remove (55.201)** .
12. Remove the travel and vibration pumps. Refer **Pump - Remove - Travel pump (29.218)**.
13. Lift the pump and set it aside.
14. Remove the hydraulic filter assembly.
15. Loosen the bolts **(2)** and remove the adapter **(1)** from the engine bell housing.



PTIL16TLB0324AB 1

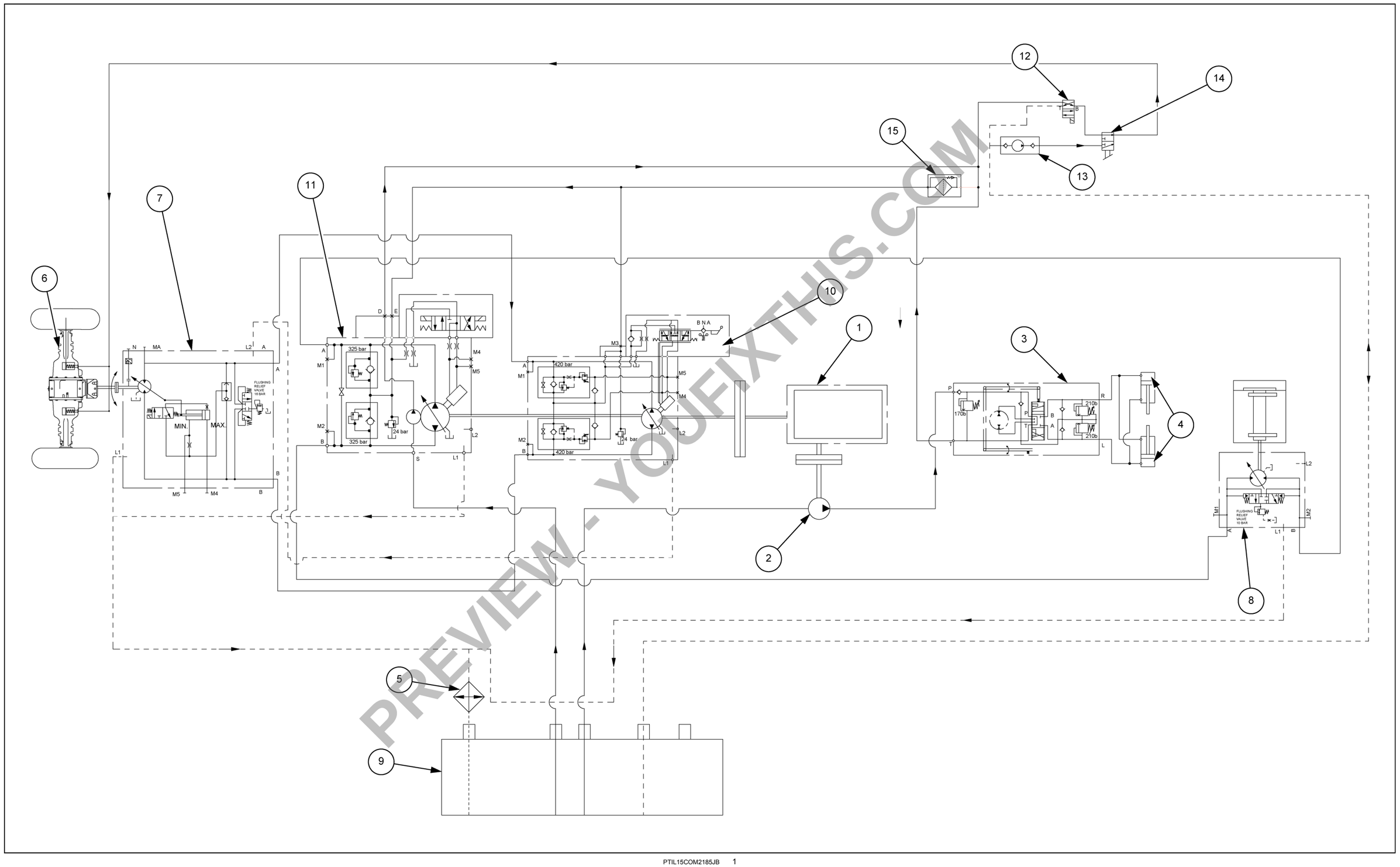
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

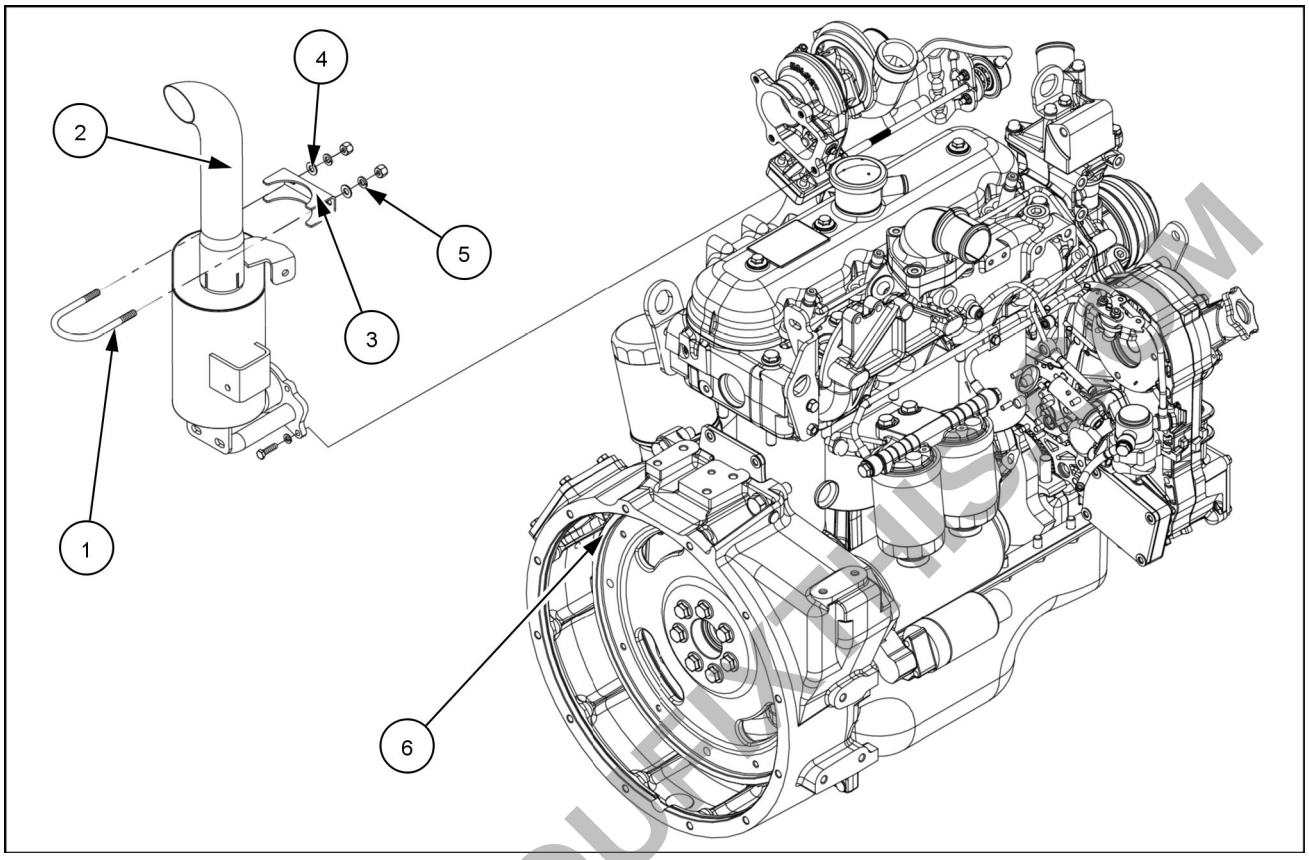


PREVIEW - YOUFIXTHIS.COM

PTIL15COM2185JB 1

Download full manual at youfixthis.com

Exhaust pipes - Exploded view



PTIL16TLB0329FB 1

1. U-clamp
2. Silencer
3. Clamping-plate
4. Washer M10
5. Hex nut
6. Engine

PREVIEW - YOUFIXTHIS.COM

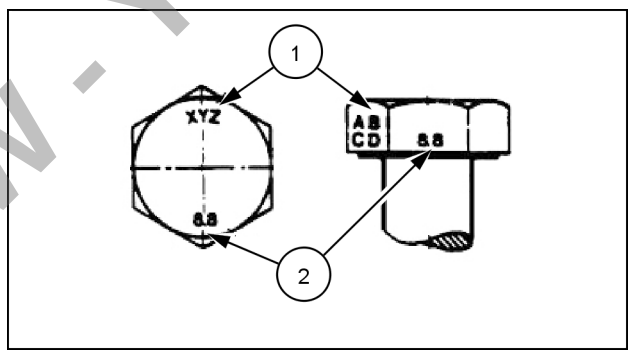
Download full manual at youfixthis.com

METRIC FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.4 N·m (21 lb in)	3.2 N·m (28 lb in)	3.5 N·m (31 lb in)	4.6 N·m (41 lb in)	2.2 N·m (19 lb in)	3.1 N·m (27 lb in)
M5	4.9 N·m (43 lb in)	6.5 N·m (58 lb in)	7.0 N·m (62 lb in)	9.4 N·m (83 lb in)	4.4 N·m (39 lb in)	6.4 N·m (57 lb in)
M6	8.3 N·m (73 lb in)	11 N·m (96 lb in)	12 N·m (105 lb in)	16 N·m (141 lb in)	7.5 N·m (66 lb in)	11 N·m (96 lb in)
M8	20 N·m (179 lb in)	27 N·m (240 lb in)	29 N·m (257 lb in)	39 N·m (343 lb in)	18 N·m (163 lb in)	27 N·m (240 lb in)
M10	40 N·m (30 lb ft)	54 N·m (40 lb ft)	57 N·m (42 lb ft)	77 N·m (56 lb ft)	37 N·m (27 lb ft)	53 N·m (39 lb ft)
M12	70 N·m (52 lb ft)	93 N·m (69 lb ft)	100 N·m (74 lb ft)	134 N·m (98 lb ft)	63 N·m (47 lb ft)	91 N·m (67 lb ft)
M16	174 N·m (128 lb ft)	231 N·m (171 lb ft)	248 N·m (183 lb ft)	331 N·m (244 lb ft)	158 N·m (116 lb ft)	226 N·m (167 lb ft)
M20	350 N·m (259 lb ft)	467 N·m (345 lb ft)	484 N·m (357 lb ft)	645 N·m (476 lb ft)	318 N·m (235 lb ft)	440 N·m (325 lb ft)
M24	607 N·m (447 lb ft)	809 N·m (597 lb ft)	838 N·m (618 lb ft)	1118 N·m (824 lb ft)	552 N·m (407 lb ft)	

IDENTIFICATION

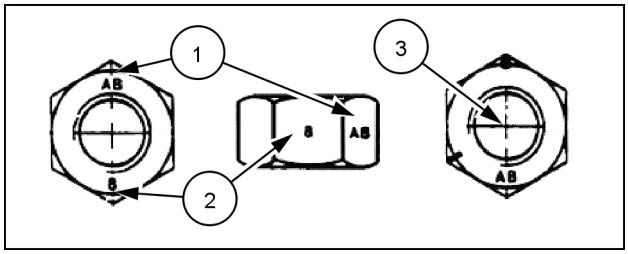
Metric Hex head and carriage bolts, classes 5.6 and up



20083680 1

1. Manufacturer's Identification
2. Property Class

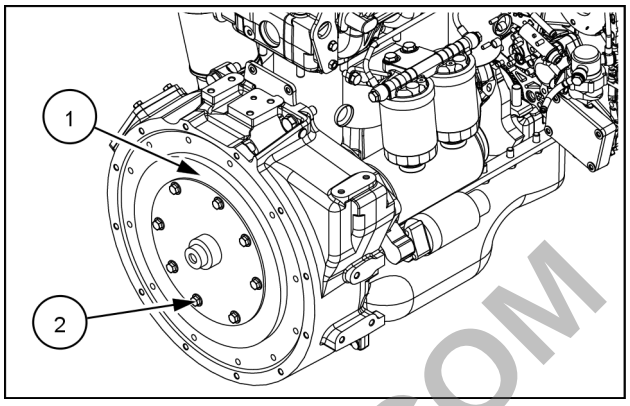
Metric Hex nuts and locknuts, classes 05 and up



20083681 2

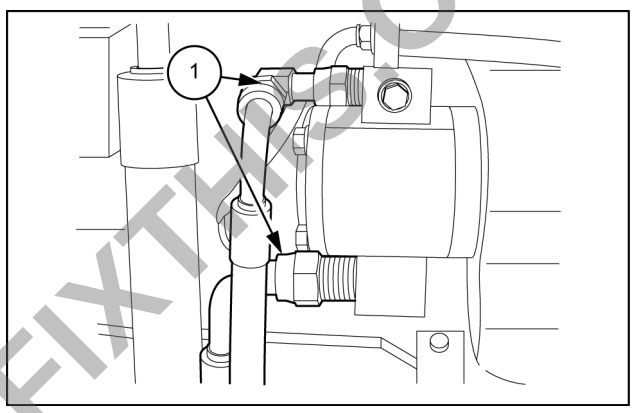
PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

16. Loosen the bolts **(2)** and remove the coupling **(1)** from the flywheel.



PTIL16TLB0325AB 2

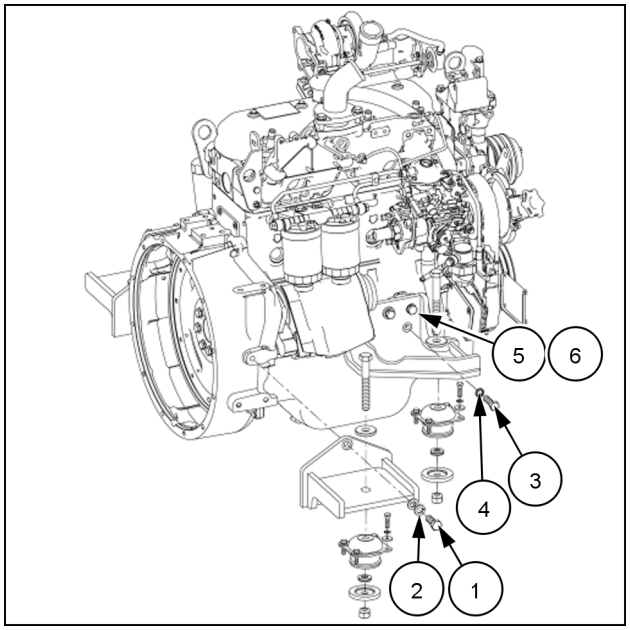
17. Disconnect the hydraulic lines **(1)** at the steering pump end and cap the openings. Set the hose aside.



PTIL14COM1364AB 3

18. Disconnect the fuel hoses from the fuel tank to mud filter and cap them.
19. Disconnect the fuel hose from filter to engine and to mud filter and cap them.
20. Disconnect the emergency stop switch.
21. Disconnect the throttle cable at the pump end and clear the cable from the engine.
22. Connect a suitable lifting device to the engine.
23. Loosen and remove the bolts **(1)** with washer **(2)**.
24. Loosen and remove the bolts **(3)** with washer **(4)**.

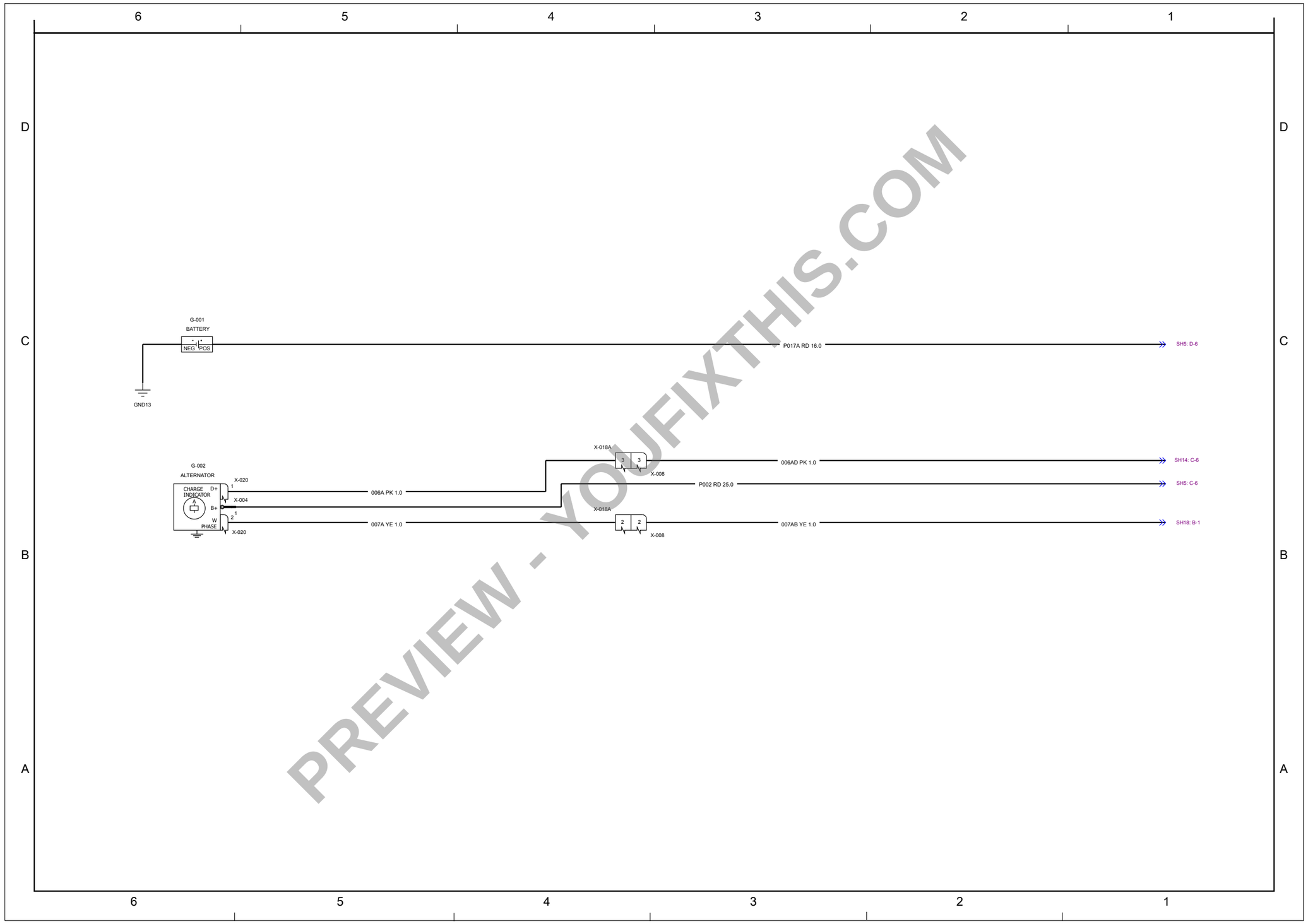
NOTE: *The bolt **(5)** is different from other bolts on the mounting bracket and has an additional alternator bracket spacer **(6)**. Put an identification tag on the bolt and make sure to install the bolt in same location while mounting the engine.*



PTIL18COM0017AA 4

PREVIEW - YOUFIXTHIS.COM

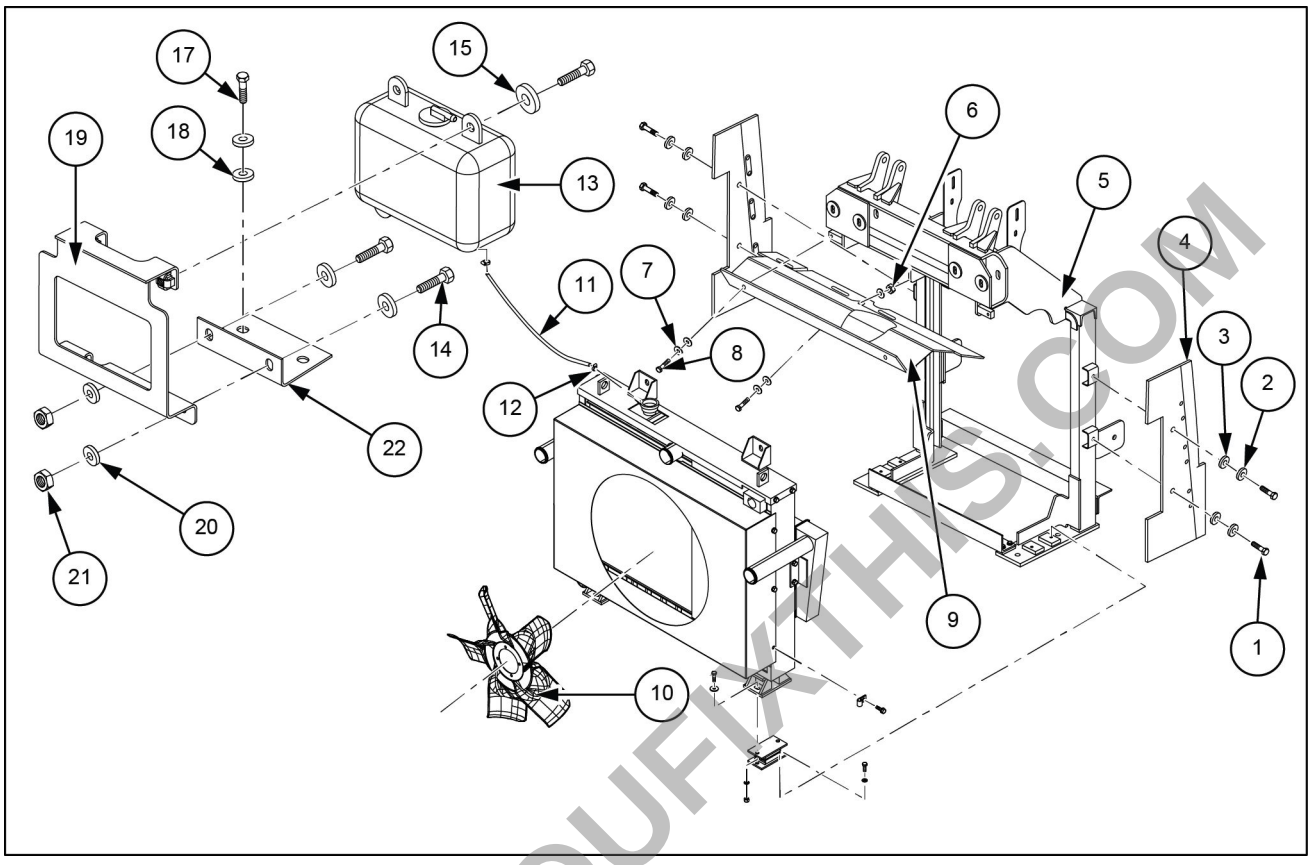
Download full manual at youfixthis.com



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Engine cooling system - Exploded view - Cooling pack



PTIL16TLB0333FB 1

1. Bolt M10 x 25
2. Lock washer
3. Washer
4. Radiator deflector plate assembly – RH
5. Roc. Mounting bracket – MCD
6. Nylock nut
7. Lock washer M10
8. Bolt M10 x 30
9. Upper plate deflector plate assembly
10. Fan
11. Hose recovery tank
12. Hose clip
13. Recovery tank
14. Cap screw hex M8 x 1.25 x 14
15. Conical washer 8 x 16 x 14
16. Washer D8 x 25 x 2.5
17. Bolt 10 x 1.25 x 25
18. Lock washer M10
19. Bracket recovery tank
20. M/CD Washer 8.4 ZN
21. Nylock nut M8 x 1.25
22. Plate mounting (coolant tank AVM)
23. Radiator deflector plate assembly – LH

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

1. Manufacturer's Identification
2. Property Class
3. Clock Marking of Property Class and Manufacturer's Identification (Optional), i.e. marks **60°** apart indicate Class 10 properties, and marks **120°** apart indicate Class 8.

INCH NON-FLANGED HARDWARE

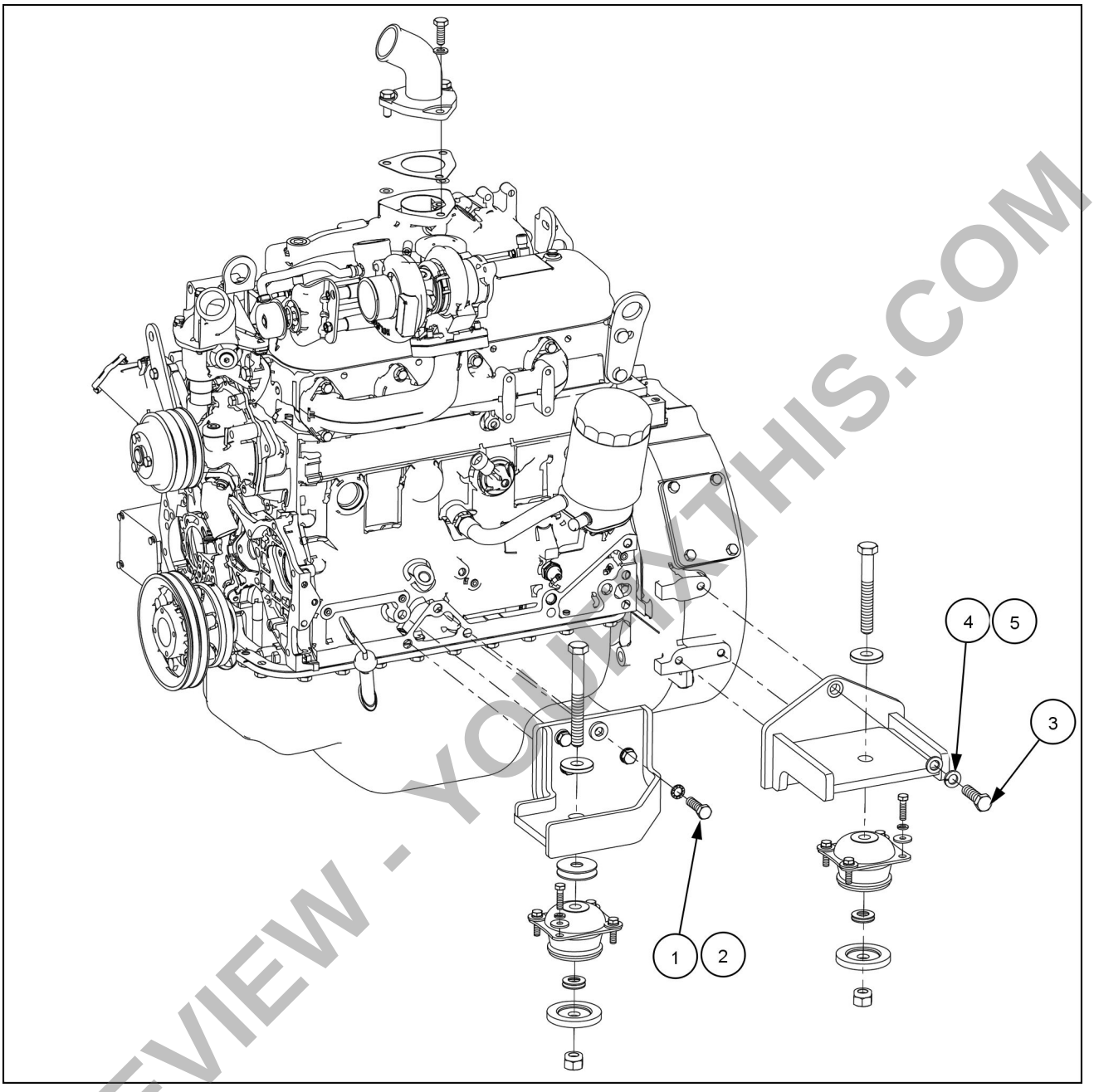
NOMINAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrB W/ Gr5 BOLT	LOCKNUT GrC W/ Gr8 BOLT
	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	**8 N·m (71 lb in)**	**11 N·m (97 lb in)**	**12 N·m (106 lb in)**	**16 N·m (142 lb in)**	**8.5 N·m (75 lb in)**	**12.2 N·m (109 lb in)**
5/16	**17 N·m (150 lb in)**	**23 N·m (204 lb in)**	**24 N·m (212 lb in)**	**32 N·m (283 lb in)**	**17.5 N·m (155 lb in)**	**25 N·m (220 lb in)**
3/8	**30 N·m (22 lb ft)**	**40 N·m (30 lb ft)**	**43 N·m (31 lb ft)**	**57 N·m (42 lb ft)**	**31 N·m (23 lb ft)**	**44 N·m (33 lb ft)**
7/16	**48 N·m (36 lb ft)**	**65 N·m (48 lb ft)**	**68 N·m (50 lb ft)**	**91 N·m (67 lb ft)**	**50 N·m (37 lb ft)**	**71 N·m (53 lb ft)**
1/2	**74 N·m (54 lb ft)**	**98 N·m (73 lb ft)**	**104 N·m (77 lb ft)**	**139 N·m (103 lb ft)**	**76 N·m (56 lb ft)**	**108 N·m (80 lb ft)**
9/16	**107 N·m (79 lb ft)**	**142 N·m (105 lb ft)**	**150 N·m (111 lb ft)**	**201 N·m (148 lb ft)**	**111 N·m (82 lb ft)**	**156 N·m (115 lb ft)**
5/8	**147 N·m (108 lb ft)**	**196 N·m (145 lb ft)**	**208 N·m (153 lb ft)**	**277 N·m (204 lb ft)**	**153 N·m (113 lb ft)**	**215 N·m (159 lb ft)**
3/4	**261 N·m (193 lb ft)**	**348 N·m (257 lb ft)**	**369 N·m (272 lb ft)**	**491 N·m (362 lb ft)**	**271 N·m (200 lb ft)**	**383 N·m (282 lb ft)**
7/8	**420 N·m (310 lb ft)**	**561 N·m (413 lb ft)**	**594 N·m (438 lb ft)**	**791 N·m (584 lb ft)**	**437 N·m (323 lb ft)**	**617 N·m (455 lb ft)**
1	**630 N·m (465 lb ft)**	**841 N·m (620 lb ft)**	**890 N·m (656 lb ft)**	**1187 N·m (875 lb ft)**	**654 N·m (483 lb ft)**	**924 N·m (681 lb ft)**

NOTE: *For Imperial Units,* ***1/4 in*** *and* ***5/16 in*** *hardware torque specifications are shown in pound-inches.* ***3/8 in*** *through* ***1 in*** *hardware torque specifications are shown in pound-feet.*

PREVIEW. YOUFIXTHIS.COM

Download full manual at youfixthis.com

Engine and crankcase - Install



PTIL18COM0016GA 1

1. Place the engine on the machine by using suitable lifting device.
2. Tighten the four mounting bolts **(1)** with washer **(2)** to a torque of **125 N·m**.
3. Tighten the mounting bolts **(3)** with washer **(4)** and **(5)** to a torque of **120 N·m**.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Contents

INTRODUCTION

Engine 10

[10.001] Engine and crankcase 10.1

[10.202] Air cleaners and lines 10.2

[10.254] Intake and exhaust manifolds and muffler 10.3

[10.400] Engine cooling system 10.4

[10.414] Fan and drive 10.5

[10.310] Aftercooler 10.6

Rear axle system 27

[27.100] Powered rear axle 27.1

[27.106] Rear bevel gear set and differential 27.2

[27.120] Planetary and final drives 27.3

[27.124] Final drive hub, steering knuckles, and shafts 27.4

[27.AAA] Rear axle system generic sub-group 27.5

Hydrostatic drive 29

[29.218] Pump and motor components 29.1

Brakes and controls 33

[33.120] Mechanical service brakes 33.1

[33.110] Parking brake or parking lock 33.2

Hydraulic systems 35

[35.000] Hydraulic systems 35.1

[35.300] Reservoir, cooler, and filters 35.2

Frames and ballasting 39

[39.100] Frame 39.1

[39.500] Vibratory roller 39.2

[39.AAA] Frames and ballasting generic sub-group 39.3

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Contents

Rear axle system - 27

Powered rear axle - 100

TECHNICAL DATA

Powered rear axle
Special tools . . . 3
Torque . . . 8
General specification . . . 11
Technical Data . . . 13

Rear axle
General specification (*) . . . 16
Torque (*) . . . 16

FUNCTIONAL DATA

Powered rear axle
Static description . . . 19

SERVICE

Powered rear axle
Remove . . . 20
Install . . . 23
Service instruction . . . 25

Rear axle oil vent
Bleed . . . 30

Transfer gearbox
Disassemble . . . 31
Assemble . . . 34

(*) See content for specific models

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

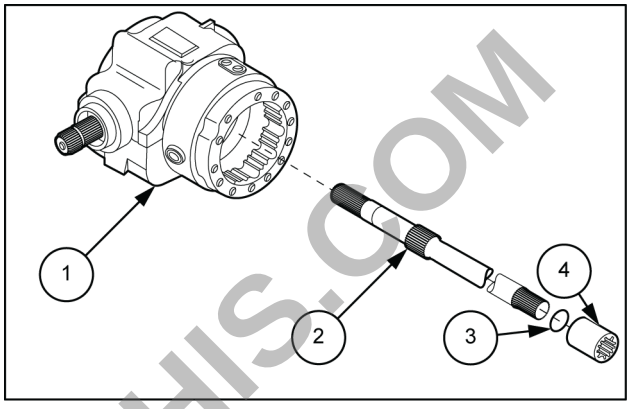
Axle shaft - Assemble

NOTICE: *For sealant details refer* ***Powered rear axle - Technical Data (27.100)****. For Torque details refer* ***Powered rear axle - Torque (27.100)****.*

NOTE: *Assemble the brake group before assembling the axle beam trumpets group.*

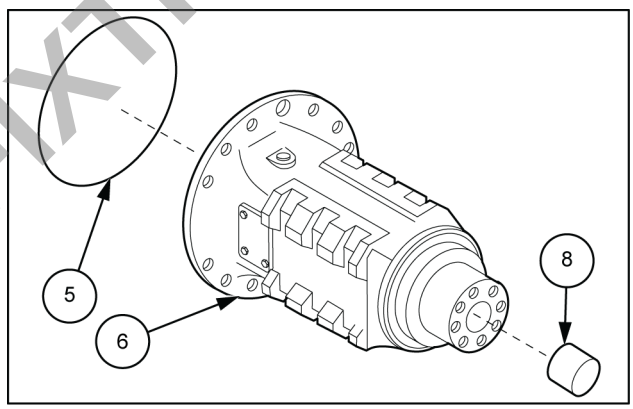
1. Insert the long half-shaft **(2)** into the axle central body.
2. Instal the snap ring **(3)** into the sleeve **(4)**.
3. Assemble the sleeve **(4)** on the long half-shaft

NOTE: *Drive the sleeve with the snap ring rests on long half-shaft.*



PTIL14COM0805AB 1

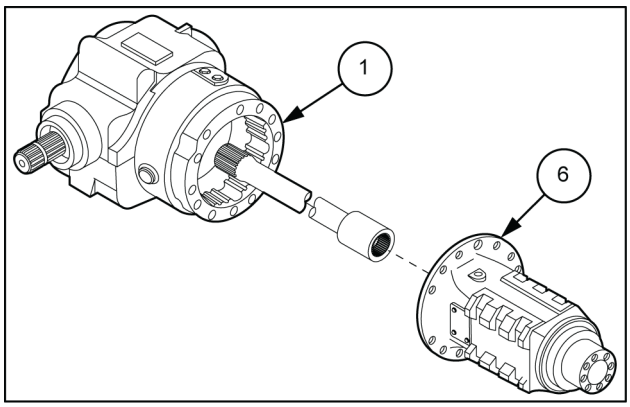
4. Assemble the beam trumpet **(6)** to the bush **(8)** using the suitable tool and a hammer. Refer the **Powered rear axle - Special tools (27.100)**.
5. Assemble a new O-Ring **(5)** into the beam trumpet



PTIL14COM0806AB 2

6. Assemble the beam trumpet to the central body **(1)** using the reference marks carried out during disassembly

NOTE: *Support the groups as pointed out for disassembly phase.*



PTIL14COM0807AB 3

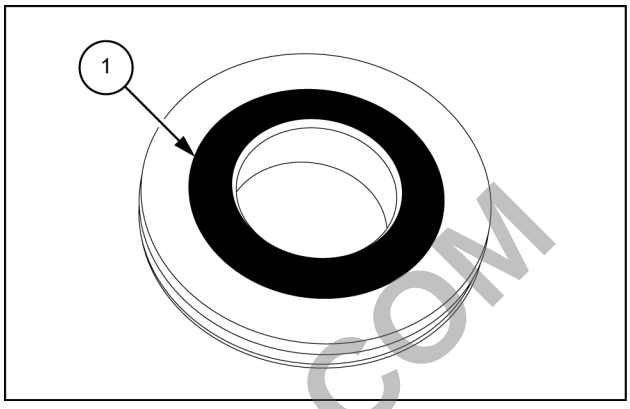
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Pump - Assemble - Shaft Seal and Shaft Replacement

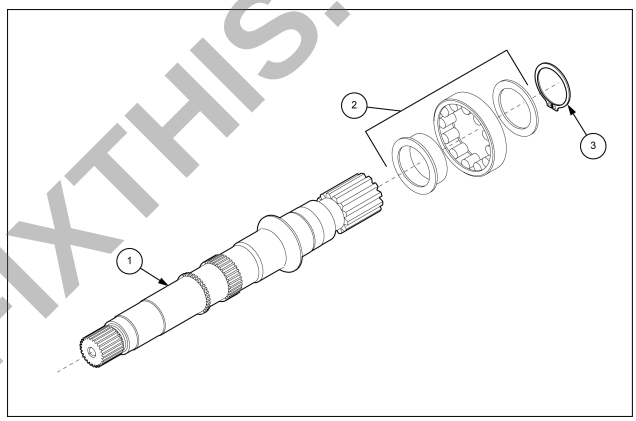
1. Using the arbor press, press the new seal **(1)** into seal carrier. Be careful not to damage the seal.

NOTE: *The outside diameter of the seal may be lightly coated with a sealant (such as Loctite High Performance Sealant #59231) prior to installation. This aids in preventing leaks caused by damage to the seal bore in the seal carrier.*



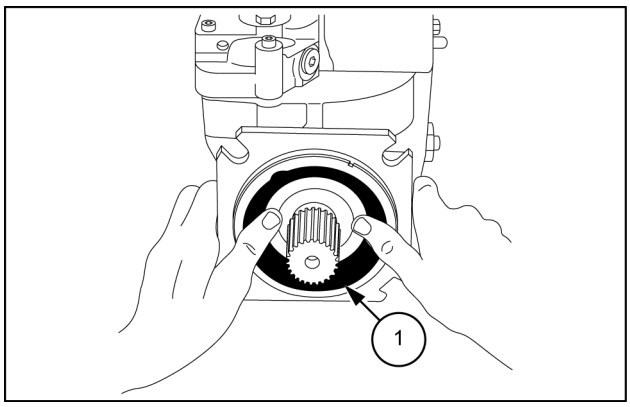
PTIL14COM0418AB 1

2. Place roller bearing assembly **(2)** on new shaft **(1)** and secure with the retaining ring **(3)**.
3. Wrap spline or key end of shaft with plastic film to prevent damage to the sealing lip on the seal during installation.
4. Prior to assembly, lubricate the O-ring on the O.D. of the seal carrier and the I.D . of the seal with clean petroleum jelly.



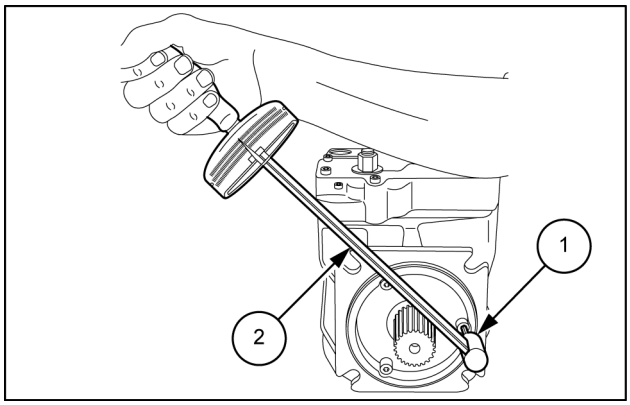
PTIL14COM1184FB 2

5. Assemble the seal carrier and seal **(1)** over the shaft and into the housing bore. Install the retainer plate (if used).



PTIL14COM0423AB 3

6. Install the screws **(1)** and apply torque using torque wrench **(2)** with reference to the value mentioned in the below table.

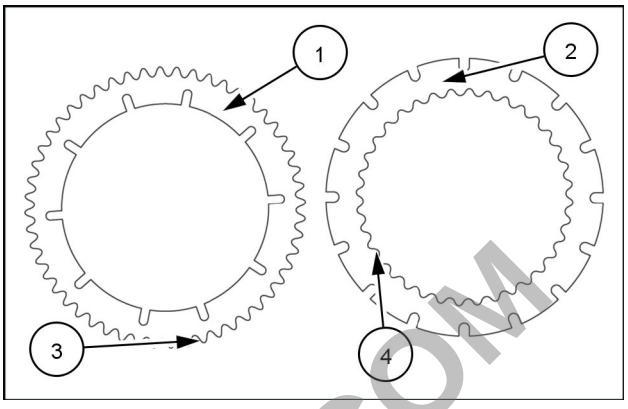


PTIL14COM0424AB 4

PREVIEW - YOUFIXTHIS.COM

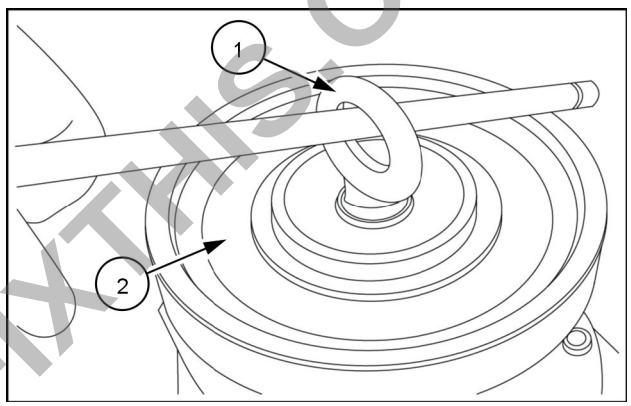
Download full manual at youfixthis.com

8. Apply oil to the brake discs **(1)** and **(2)** with hydraulic fluid and install the external teeth brake disc **(3)** with external spline and internal teeth brake disc **(4)** with internal spline.



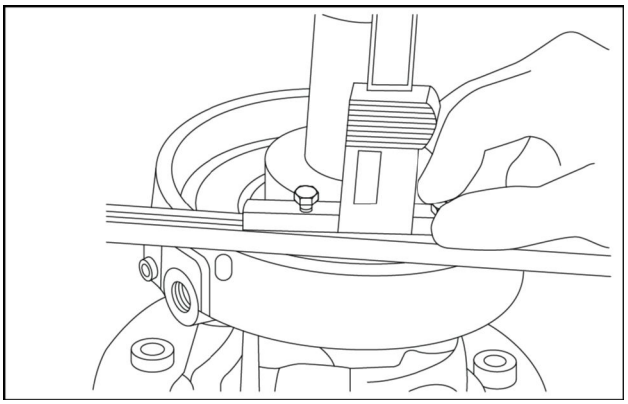
PTIL16TLB0114AB 8

9. Using eye bolt **(1)** install the brake piston **(2)** by force and tightening the eye bolt **(1)** using suitable tool.



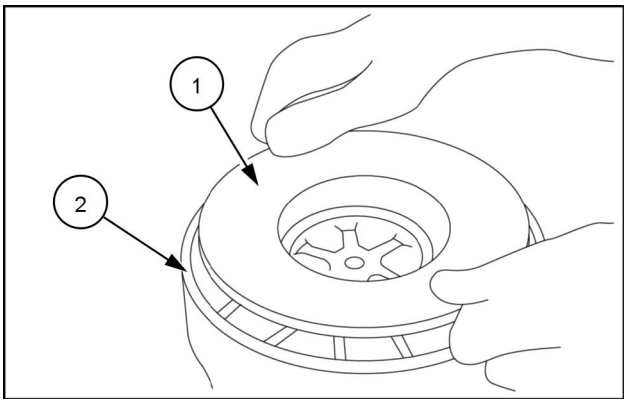
PTIL16TLB0125AB 9

10. Set to the zero by positioning the heel of the depth gauge in top of washer groove of the brake housing.



PTIL16TLB0134AB 10

11. Install the spring washer **(1)** on the brake housing **(2)**.



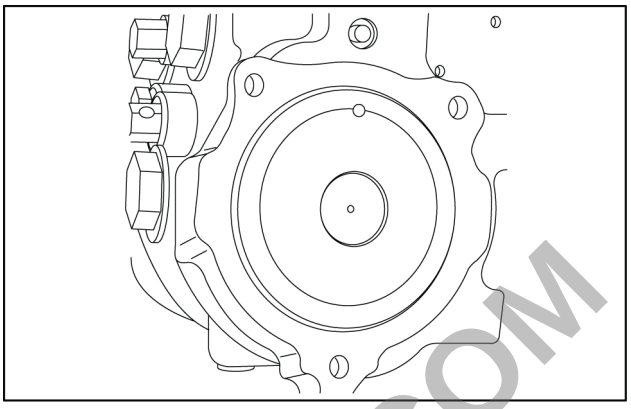
PTIL16TLB0135AB 11

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

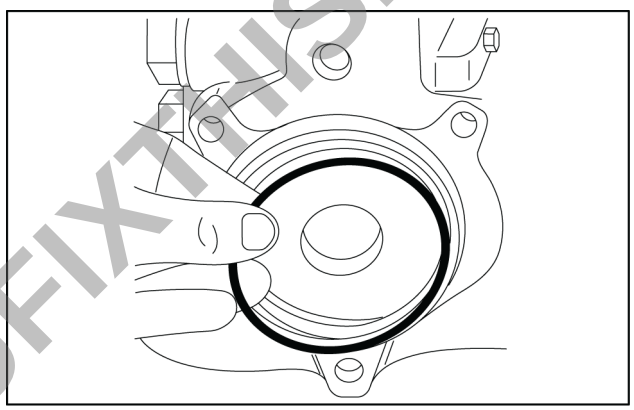
10. Install the gerotor cover with locating pin over the gerotor assembly and into the pump housing.

NOTE: *Orient the cover for the input shaft rotation direction.*



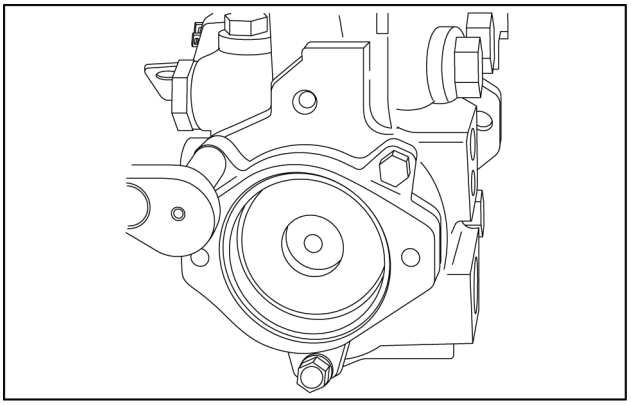
PTIL14COM0566AA 8

11. The pin should be closest to the control for the clockwise input rotation.
12. Install a new temper load ring in the groove of the gerotor cover. Install a new O ring around the gerotor cover into the pump housing.



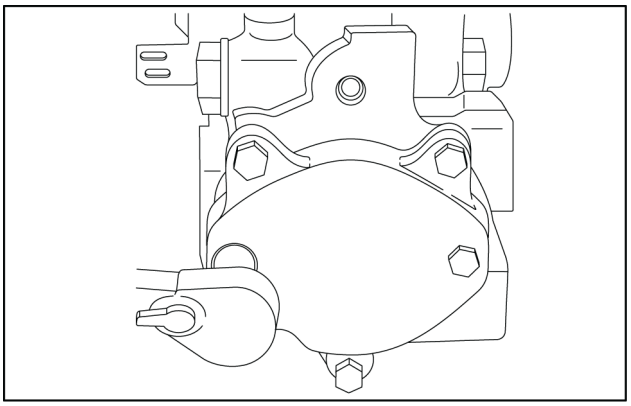
PTIL14COM0568AA 9

13. Install and tighten the hexagon head screws of the pad adapter to a torque of **37 – 50 N·m** (**27 – 37 lb ft**)



PTIL14COM0556AA 10

14. Install the charge pump cover and tighten to a torque of **27 – 34 N·m** (**20 – 25 lb ft**)

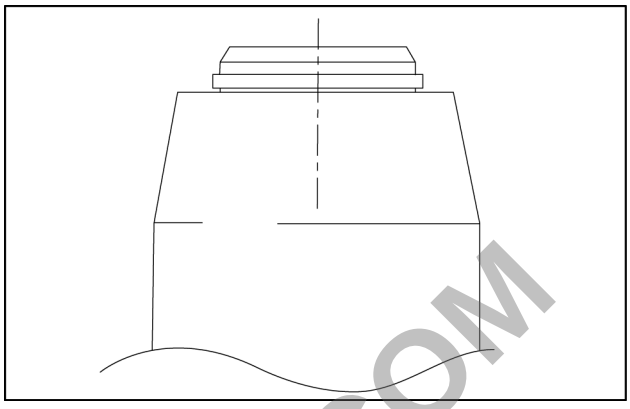


PTIL14COM0554AA 11

PREVIEW - YOUFIXTHIS.COM

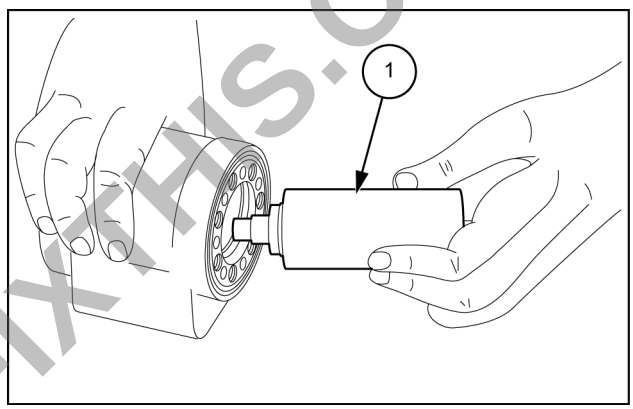
Download full manual at youfixthis.com

8. Apply grease to rotary seal and place it on the tool.



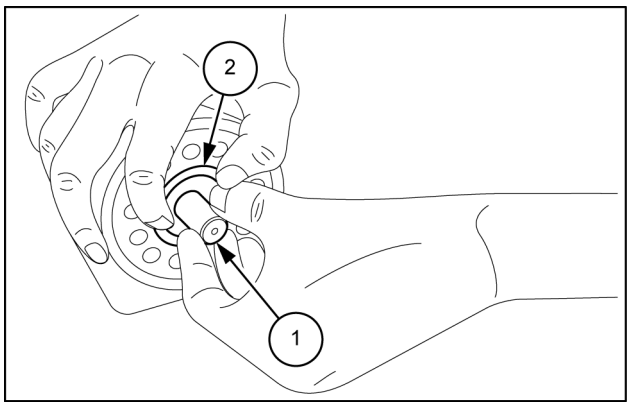
PTIL14COM0713AA 8

9. Place the steering unit with the bore in a horizontal position. With a rotating movement, guide the outer part of the assembly tool **(1)** into the bore for the spool/ sleeve.



PTIL14COM0714AB 9

10. Loosen the rotary seal from the internal part **(1)** of the tool in the housing, holding the outer part **(2)** of the tool against the body of the steering unit and then guide the inner part of the tool right to the bottom.

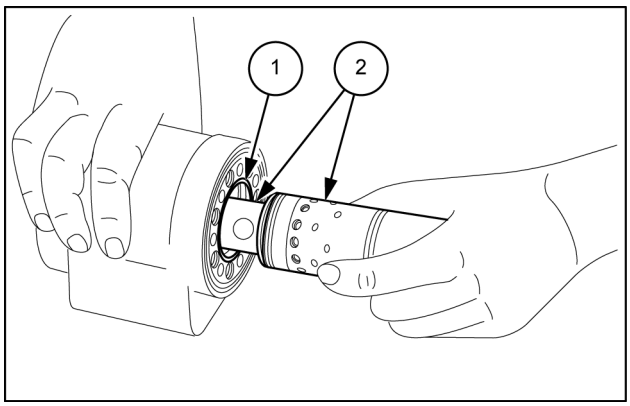


PTIL14COM0715AB 10

11. With a light rotating movement, guide the lubricated spool and sleeve **(2)** set into the lubricated bore **(1)**.

    Make sure the spool and sleeve **(2)** are fully in contact with the bearing assembly and totally inserted in the body.

ATTENTION: *Fit the spool and sleeve set while holding the cross pin horizontally.*



PTIL14COM0716AB 11

PREVIEW - YOUFIXTHIS.COM

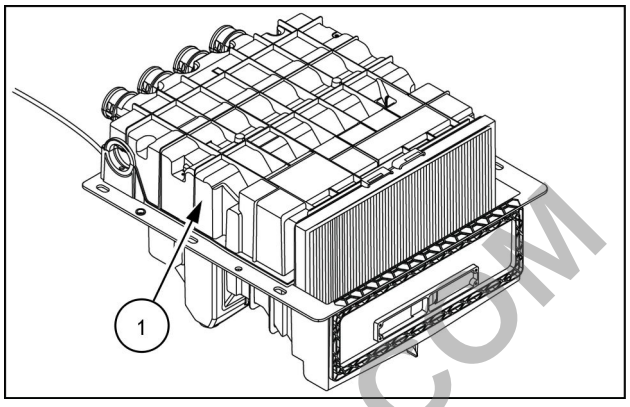
Download full manual at youfixthis.com

Heating - Install

1. Install the heater core **(1)** and secure it with mounting hardware.

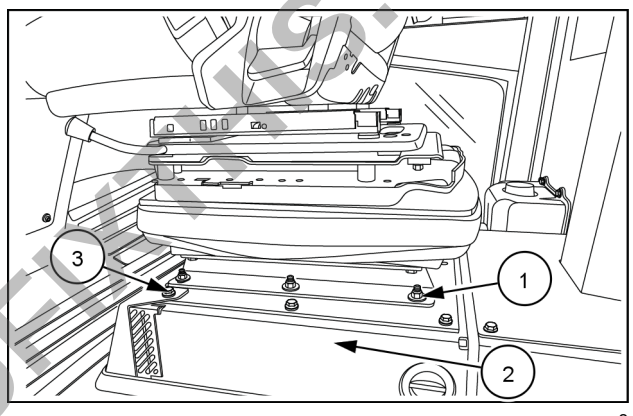
ATTENTION: *Make sure that the heater core fins are not damaged while installing.*

2. Remove the caps and connect the heater core connections.



PTIL17COM0269AB 1

3. Install the cover **(2)** with the bolts **(3)** on the heater assembly.
4. Install the seat and tighten the bolts **(1)**.

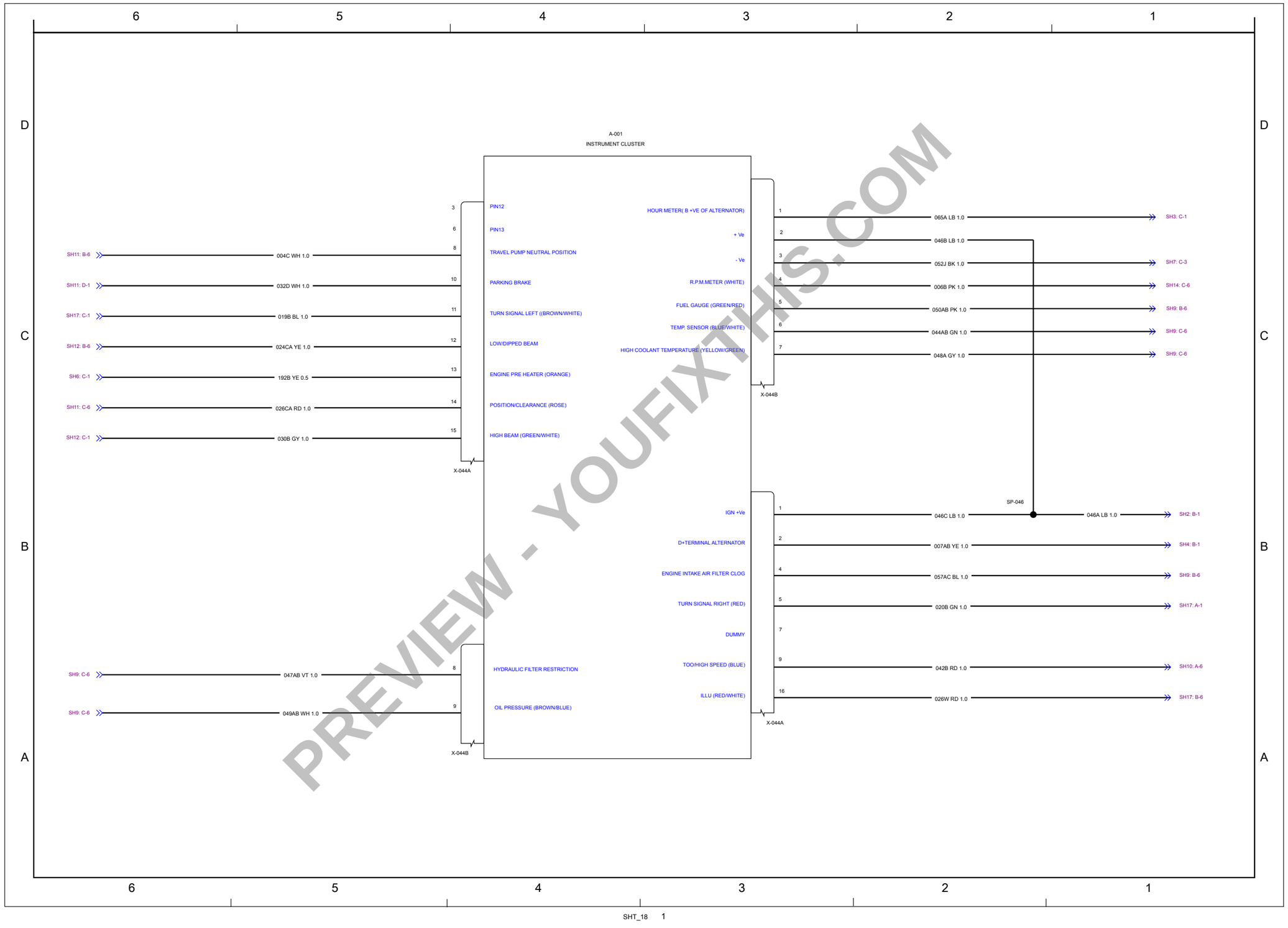


PTIL17COM0275AB 2

5. Refill the coolant.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Electrical components - Sensor description

B-001 - VACCUM SWITCH (Sensor)

Component Type	Sensor
Wiring frames	**SHEET 09 SH-009 ENGINE CONTROL SYSTEM**
Connectors	**X-053A (Receptacle)** - TO VACCUM SW. [B-001 (84606396)

B-002 - ENGINE COOLANT TEMP. SENSOR (Sensor)

Component Type	Sensor
Wiring frames	**SHEET 09 SH-009 ENGINE CONTROL SYSTEM**
Connectors	**X-051 (Receptacle)** - TO ENGINE COOLANT TEMP. SENSOR [B-002 (84491249)

B-003 - FUEL LEVEL SENSOR (Sensor)

Component Type	Sensor
Wiring frames	**SHEET 09 SH-009 ENGINE CONTROL SYSTEM**
Connectors	**X-048 (Receptacle)** - [B-003 (84179570)

B-004 - NEUTRAL SWITCH (Sensor)

Component Type	Sensor
Wiring frames	**SHEET 11 SH-011 HYDRAULIC 2**
Connectors	**X-103B (Plug)** - TO NEUTRAL SWITCH [B-004 (84304261) **X-103A (Plug)** - TO NEUTRAL SWITCH [B-004 (84304261)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 24 of 777 pages

The full manual includes:

- All 777 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Case 1107EX Service Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual