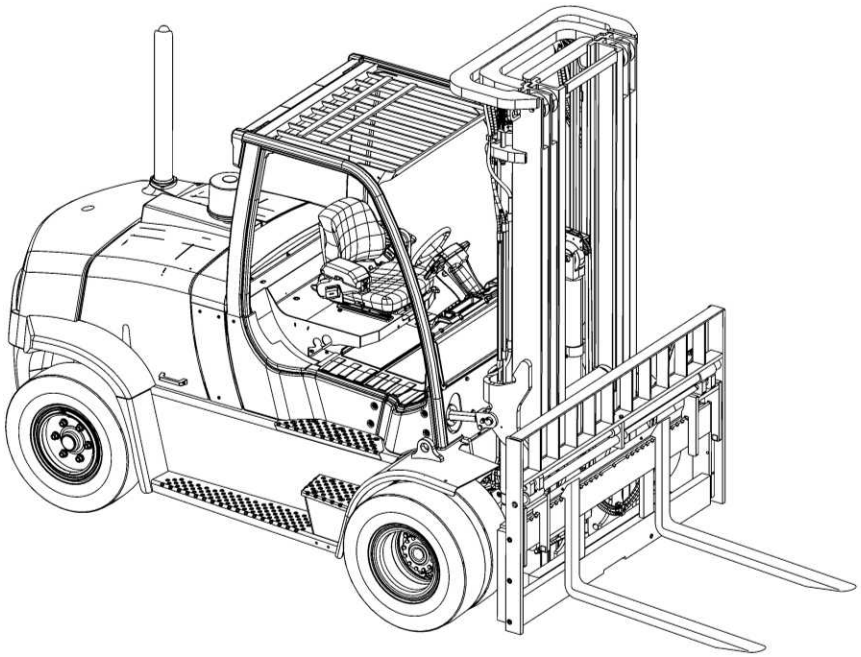
Yale

Maintenance

CAPACITIES AND SPECIFICATIONS

GDP/GLP80VX, GDP/GLP80VX9, GDP/GLP90VX (GLP/GDP170VX, GLP/GDP175VX36, GLP/GDP190VX) [D909]



PART NO. 550230000

8000 YRM 2297

SAFETY PRECAUTIONS
MAINTENANCE AND REPAIR

- The Service Manuals are updated on a regular basis, but may not reflect recent design changes to the product. Updated technical service information may be available from your local authorized Yale® dealer. Service Manuals provide general guidelines for maintenance and service and are intended for use by trained and experienced technicians. Failure to properly maintain equipment or to follow instructions contained in the Service Manual could result in damage to the products, personal injury, property damage or death.
- When lifting parts or assemblies, make sure all slings, chains, or cables are correctly fastened, and that the load being lifted is balanced. Make sure the crane, cables, and chains have the capacity to support the weight of the load.
- Do not lift heavy parts by hand, use a lifting mechanism.
- Wear safety glasses.
- DISCONNECT THE BATTERY before doing any maintenance or repair on electric lift trucks. Disconnect the battery ground cable on internal combustion lift trucks.
- Always use correct blocks to prevent the unit from rolling or falling. See HOW TO PUT THE LIFT TRUCK ON BLOCKS in the **Operating Manual** or the **Periodic Maintenance** section.
- Keep the unit clean and the working area clean and orderly.
- Use the correct tools for the job.
- Keep the tools clean and in good condition.
- Always use **YALE ® APPROVED** parts when making repairs. Replacement parts must meet or exceed the specifications of the original equipment manufacturer.
- Make sure all nuts, bolts, snap rings, and other fastening devices are removed before using force to remove parts.
- Always fasten a DO NOT OPERATE tag to the controls of the unit when making repairs, or if the unit needs repairs.
- Be sure to follow the **WARNING** and **CAUTION** notes in the instructions.
- Gasoline, Liquid Petroleum Gas (LPG), Compressed Natural Gas (CNG), and Diesel fuel are flammable. Be sure to follow the necessary safety precautions when handling these fuels and when working on these fuel systems.
- Batteries generate flammable gas when they are being charged. Keep fire and sparks away from the area. Make sure the area is well ventilated.

NOTE: The following symbols and words indicate safety information in this manual:



WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury and property damage.

On the lift truck, the WARNING symbol (and word, if present) are on orange background. The CAUTION symbol (and word, if present) are on yellow background.

WARNING

Installing improper electrical accessories or installing an electrical accessory incorrectly can increase the risk of equipment damage, personal injury and fire. DO NOT install electrical accessories to the truck unless you have been trained and authorized to do so. Personnel installing the electrical accessories must document the changes made to the truck. DO NOT install accessories which affect the truck's compliance with standard EN 1175:2020.

WARNING

California Proposition 65 - Operating, servicing and maintaining a powered industrial truck can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

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Yale

Lift Truck Lifting Capacity

Model	Weight
GLP/GDP80VX (GLP/GDP170VX)	8,000 kg (17,000 lb)*
GLP/GDP80VX9 (GLP/GDP175VX36)	8,000 kg (17,500 lb)**
GLP/GDP90VX (GLP/GDP190VX)	9,000 kg (19,000 lb)*
*Load center at 600 mm (24 in.) **Load center at 900 mm (36 in.)	

Counterweight Weights

Model	Weight
GLP/GDP80VX (GP/GLP/GDP170VX)	3099 kg (6832 lb)
GLP/GDP80VX9 (GP/GLP/GDP175VX36)	3983 kg (8781 lb)
GLP/GDP90VX (GP/GLP/GDP190VX)	3567 kg (7864 lb)

Tire Sizes

Truck	Single Drive Tires	Dual Drive Tires	Steer Tires
GLP/GDP80VX, GLP/GDP80VX9, GLP/GDP90VX (GLP/GDP170VX, GLP/GDP175VX36,GLP/GDP190VX)	355 x 65 R15 Pneumatic Radial (Europe Only)	8.25 x 15 Pneumatic Radial 300 x 15 Solid Pneumatic 8.25 R15 Radial	8.25 x 15 Pneumatic Radial 300 x 15 Solid Pneumatic 8.25 R15 Radial

Capacities

Item	Quantity	Specifications
Fuel Capacity		
Kubota 3.8L Diesel Engine (Emissions Certified Engines)	74.8 liter (19.7 gal)	Ultra Low Sulfur ≤ 15 PPM Diesel No. 2
Kubota 3.8L Diesel Engine (Non-Emissions Certified Engines)	74.8 liter (19.7 gal)	Ultra Low Sulfur ≤ 15 PPM Diesel No. 2
GM 5.7L LPG		LPG - HD 5
Engine Oil		
Kubota 3.8L Diesel Engine (Emissions Certified Engines)	13.2 liter (13.9 qt)	-15°C (5°F) and above 15W-40 or 5W-40 -25°C (-13°F) 10W-30 or 5W-40 Below -25°C (-13°F) API CJ-4
Kubota 3.8L Diesel Engine (Non-Emissions Certified Engines)	13.2 liter (13.9 qt)	-15°C (5°F) and above 15W-40 or 5W-40 -25°C (-13°F) 10W-30 or 5W-40 Below -25°C (-13°F) API CF or Better
GM 5.7L LPG Engine	5.2 liter (5.5 qt)	−7°C (20°F) and below SAE 5W-20 16°C (60°F) and below SAE 5W-30 −18°C (0°F) and above SAE 10W-30 API SM and ILSAC GF4
Cooling System		
Kubota 3.8L Diesel Engine	11.0 liter (11.6 qt)	**CAUTION** **Additives may damage the cooling system. Before using additives, contact your local Yale dealer.** Use Ethylene Glycol Boron-free Antifreeze. Purchase a pre-diluted 50/50 solution; or mix 50% concentrate with 50% distilled or deionized water.

Item	Quantity	Specifications
GM 5.7L LPG Engine	15.9 liter (16.8 qt)	**CAUTION** **Additives may damage the cooling system. Before using additives, contact your local Yale dealer.** Use Ethylene Glycol Boron-free Antifreeze. Purchase a pre-diluted 50/50 solution; or mix 50% concentrate with 50% distilled or deionized water.
Diesel Exhaust Fluid		
Kubota 3.8L Diesel	20 liter (21.1 qt)	32.5% urea (AUS 32) ISO 22241
Hydraulic Tank Oil Capacity		
All Trucks	75 liter (79 qt) Initial Fill 71.7 liter (75.8 qt) Drain and Fill	**CAUTION** **Additives may damage the hydraulic system. Before using additives, contact your local Yale dealer.** ISO - VG 46 Hydraulic Oil Shell - Tellus Oil 46 Shell - Tellus Premium 46 Texaco - Rando HD 46 Exxon - Nuto H 46 Mobil - DTE 25 −15°C (5°F) and above
Transmission Oil Level		
Techtronix 332 (3-Speed)	24 liter (25.4 qt)	Chevron - Chevron 1000THF Deere and Company - HYGard Fluid J20C Mobile Oil Company - Mobilfluid 424 Shell Oil Company - Donax TD C
Wet Brake Drive Axle Oil Capacities		
Drive Axle Housing Arm Oil Right Chamber	9.0 liter (9.5 qt)	Chevron - Chevron 1000THF Deere and Company - HYGard Fluid J20C Mobile Oil Company - Mobilfluid 424 Shell Oil Company - Donax TD
Drive Axle Housing Arm Oil Left Chamber	9.0 liter (9.5 qt)	Chevron - Chevron 1000THF Deere and Company - HYGard Fluid J20C Mobile Oil Company - Mobilfluid 424 Shell Oil Company - Donax TD
Wet Brake Center Section Oil		
All Lift Truck Models	4.6 liter (4.9 qt)	SAE 80W-90

Electrical System

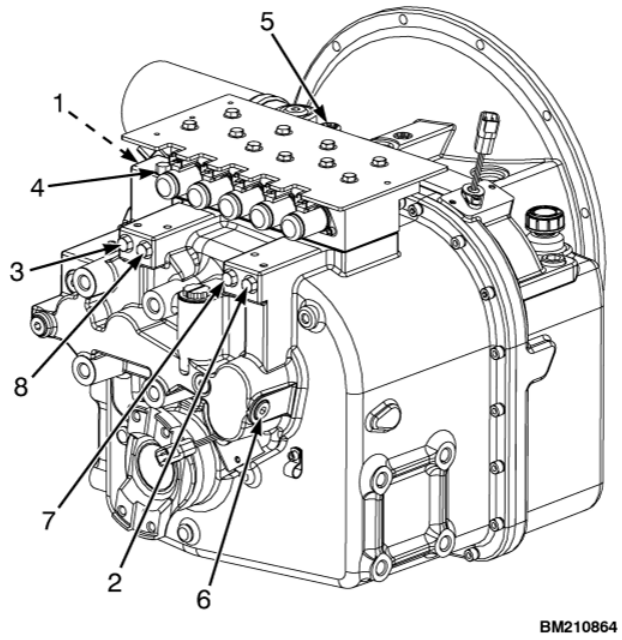
Item	Kubota 3.8L Diesel (Non-Emissions Certified Engine)	Kubota 3.8L Diesel (Emissions Certified Engine)	GM 5.7L LPG
Battery	12-volt, negative ground	12-volt, negative ground	12-volt, negative ground
Ignition Timing	Not Adjustable	Not Adjustable	Not Adjustable

Alternator Output (13.5 Volts)	Kubota 3.8L Diesel (Non-Emissions Certified Engine)	
	D	DS
Low Idle	30 amps @ 800 rpm	25 amps @ 800 rpm
Governed Speed	95 amps @ 2430 rpm	45 amps @ 2430 rpm
Alternator Output (13.5 Volts)	**Kubota 3.8L Diesel (Emissions Certified Engine)**	
	D	**DS**
Low Idle	30 amps @ 800 rpm	25 amps @ 800 rpm
Governed Speed	80 amps @ 2400 rpm	45 amps @ 2400 rpm
Alternator Output (14.0 Volts)	**GM 5.7L LPG**	
Low Idle	50 amps @ 750 rpm	
Governed Speed	65 amps @ 2400 rpm	

Transmission Oil Pressures

3-Speed Transmission All Pressures at 2000 rpm and Oil at 50 to 65°C (120 to 150°F)							
Port 1 Transmission Pump	**Port 2**	**Port 3**	**Port 4**	**Port 5**	**Port 6**	**Port 7**	**Port 8**
Low and High Pressure	**Reverse Clutch (R1 and R2)**	**Forward Low Clutch (F1 and F2)**	**Forward High Clutch (F3)**	**Torque Converter**	**Lubrication**	**First Test Port (F1 and R1)**	**Second Test Port (F2, F3 and R2)**
1793 to 2068* kPa (260 to 300 psi)	1793 to 2068 kPa (260 to 300 psi)	1793 to 2068 kPa (260 to 300 psi)	1793 to 2068 kPa (260 to 300 psi)	758 kPa (110 psi)	69 to 276 kPa (10 to 40 psi)	1793 to 2068 kPa (260 to 300 psi)	1793 to 2068 kPa (260 to 300 psi)

3-Speed Transmission All Pressures at 2000 rpm and Oil at 50 to 65°C (120 to 150°F)							
Port 1 Transmission Pump	**Port 2**	**Port 3**	**Port 4**	**Port 5**	**Port 6**	**Port 7**	**Port 8**
Low and High Pressure	**Reverse Clutch (R1 and R2)**	**Forward Low Clutch (F1 and F2)**	**Forward High Clutch (F3)**	**Torque Converter**	**Lubrication**	**First Test Port (F1 and R1)**	**Second Test Port (F2, F3 and R2)**



*Relief Pressure

Hydraulic System Relief Pressures

Item	Specification
Oil Temperature for Setting Relief Pressure	50 to 65°C (122 to 149°F)
Primary Relief Valve Pressure (High Idle)	22.1 ±0.48 MPa (3205 ± 70 psi)
Secondary Relief Valve Pressure (High Idle)	17.2 ±0.48 MPa (2250 ±70 psi)

Steering System

Item	Quantity	
Oil Temperature for Setting Relief Pressure	50 to 65°C (122 to 149°F)	
Steering Relief Pressure at 800 rpms	15.5 ±0.3 MPa (2248 ±43.5 psi)	
Steering Cylinder Stroke (Each Side)	224.0 mm (8.3 in.)	
Inside Steering Tire Angle	74.5°	
Number of Turns to Lock	3.50	
Turning Radius (±76 mm NO LOAD)*	**Outside**	**Inside**
	3673	362
	3794	362
	3723	362
*Based on 8.25 × 15 pneumatic radial dual tires.		

Stall Speeds

Transmission	New Engine	Broken-In Engine (30 hrs)
Techtronix 332 (3 Speed)	N/A*	N/A*
*Techtronix 332 transmission has torque limiting feature.		

Mast Speeds

NOTE: Lift speed is measured in meters/sec (inch/sec) at governed engine RPM with full open valve and 65°C (149°F) oil temperature.

Lowering speed is measured in meters/sec (inch/sec) with full open valve and 65°C (149°F) oil temperature.

Plus or minus 10% acceptable lifting or lowering.

Engine	Model	Mast	Lowering M/Sec (Inch/Sec)		Lifting M/Sec (Inch/Sec)	
			No Load	Rated Load	No Load	Rated Load
Kubota 3.8L Diesel	GDP80VX (GLP/ GDP170VX)	2-Stage LFL	0.37 (14.6)	0.41 (16.1)	0.45 (17.7)	0.43 (16.9)
		3-Stage FFL	0.33 (13.0)	0.39 (15.40)	0.45 (17.7)	0.38 (15.0)
	GDP80VX9 (GLP/ GDP175VX36)	2-Stage LFL	0.37 (14.6)	0.41 (16.1)	0.45 (17.7)	0.42 (16.5)
		3-Stage FFL	0.33 (13.0)	0.39 (15.4)	0.45 (17.7)	0.38 (15.0)
	GDP90VX (GLP/ GDP190VX)	2-Stage LFL	0.37 (14.6)	0.41 (16.1)	0.45 (17.7)	0.42 (16.5)
		3-Stage FFL	0.33 (13.0)	0.39 (15.4)	0.45 (17.7)	0.37 (14.6)

Engine	Model	Mast	Lowering M/Sec (Inch/Sec)		Lifting M/Sec (Inch/Sec)	
			No Load	Rated Load	No Load	Rated Load
GM 5.7L LPG	GDP80VX	2-Stage LFL	0.37 (14.6)	0.41 (16.1)	0.45 (17.7)	0.43 (16.9)
		3-Stage FFL	0.33 (13.0)	0.39 (15.4)	0.45 (17.7)	0.35 (13.8)
	GDP80VX9	2-Stage LFL	0.37 (14.6)	0.41 (16.1)	0.45 (17.7)	0.42 (16.5)
		3-Stage FFL	0.33 (13.0)	0.39 (15.4)	0.45 (17.7)	0.34 (13.4)
	GDP90VX	2-Stage LFL	0.37 (14.6)	0.41 (16.1)	0.45 (17.7)	0.42 (16.5)
		3-Stage FFL	0.33 (13.0)	0.39 (15.4)	0.45 (17.7)	0.33 (13.0)

Tilt Angles

Lift truck should be on level ground and in unloaded condition.

Mast Type	Forward	Tolerance	Back	Tolerance
3-Stage FFL	5°	+1°, −0.5°	6°	+0°, −0.5°
2-Stage LFL	5°	+1°, −0.5°	9°	+0°, −0.5°

Front End Equipment - Mast Creep

MAST CREEP

NOTE: Mast should be 90° vertical prior to test.

Measure with rated load at 2.5 m (8.0 ft) high and with the lift, tilt, and auxiliary control levers in neutral position.

Hydraulic Oil Temperature		Maximum Vertical Creep at Carriage		Maximum Tilt Creep		
				Mast Angle	Cylinder Stroke	
°C	°F	mm/Min	in./Min	°/Min	mm/Min	in./Min
20	68	2.2	0.086	0.11	1.3	0.051
30	86	3.9	0.154	0.20	2.0	0.079
40	104	6.5	0.256	0.32	3.8	0.150
50	122	10.0	0.394	0.50	6.1	0.240
60	140	14.5	0.571	0.73	8.9	0.350

Engine Specifications

Item	Kubota 3.8L Diesel Engine 82 kW (105/110 hp)	Kubota 3.8L Diesel Engine 55 kW (74 hp)	GM 5.7L LPG Engine
No. of Cylinders	4	4	8
Firing Order	1-3-4-2	1-3-4-2	1-8-4-3-6-5-7-2
Bore and Stroke	100 mm × 120 mm (3.94 in. × 4.72 in.)	100 mm × 120 mm (3.94 in. × 4.72 in.)	101.6 mm × 88.4 mm (4.0 in. × 3.48 in.)
Displacement	3769 cc	3769 cc	5735 cc
Compression Ratio	17.0:1	17.5:1	9.4:1
Horsepower/rpm	110 @ 2400 rpm	74@ 2200 rpm	132 @ 2400 rpm
Oil Pressure	49 kPa (7 psi)	49 kPa (7 psi)	42 kPa (6.1 psi)
Valve Clearance			
Intake	0.23 - 0.27 mm (0.009 - 0.011 in.)	0.23 - 0.27 mm (0.009 - 0.011 in.)	Not Adjustable
Exhaust	0.23 - 0.27 mm (0.009 - 0.011 in.)	0.23 - 0.27 mm (0.009 - 0.011 in.)	Not Adjustable
Idle Speed	800 ±25 rpm	800 ±25 rpm	750 ±25 rpm
Governed Speed High Idle (No Load)	2400 ±25 rpm	2200 ±25 rpm	2400 ±25 rpm
Thermostat Range			
START TO OPEN	75°C (167°F)	75°C (167°F)	82°C (180°F)
FULL OPEN	90°C (194°F)	90°C (194°F)	92°C (198°F)
Cooling System Pressure	103 kPa (15 psi)	103 kPa (15 psi)	103 kPa (15 psi)

Diesel Fuel Cleanliness Levels

NOTE: The information in Table 1 applies only to Kubota 2.4L certified Tier 4 and iT4 diesel engines.

Table 1. Diesel Fuel Cleanliness Levels

Engine Type*	**Diesel Fuel Source****	**Cleanliness Standard (ISO)*** (Particles per Milliliter)**
Kubota 2.4L - T4 and iT4 Certified Engines	On Site Fuel Tanks (Bulk Storage Fuel Tanks)	18/16/13
Kubota 2.4L - T4 and iT4 Certified Engines	Lift Truck Diesel Fuel Tank	16/15/8
Kubota 2.4L - T4 and iT4 Certified Engines	Supply Hose From Fuel/Water Separator To Engine	12/9/6
*Never add fuel additives to engine or fuel system		
**Fuel filters must be installed on all diesel fuel sources to help meet cleanliness standards		
***Diesel Fuel Testing Kit (Yale P/N 582068415) is available from your **Yale** dealer to test diesel fuel cleanliness		

Torque Specifications

FRAME

Overhead Guard Mount Flange Bolts
165 N•m (122 lbf ft)

Cowl-to-Overhead Guard Legs
165 N•m (122 lbf ft)

Hood Support Flange Nut
38 N•m (28 lbf ft)

Front Side Covers to Overhead Guard Capscrews
3.5 N•m (31 lbf in)

Rear Side Covers to Front Side Covers Capscrews
3.5 N•m (31 lbf in)

Overhead Guard to Rear Side Covers Capscrews
3.5 N•m (31 lbf in)

Steering Column Nut
40 to 54 N•m (30 to 40 lbf ft)

Counterweight Capscrews (Counterweight To Lower Frame)
1020 N•m (750 lbf ft)

Counterweight Capscrews (Left and Right Counterweight Fenders to Frame)
320 to 368 N•m (236 to 271 lbf ft)

MAST, CARRIAGE, AND FORK POSITIONER

Mast Mounting Capscrews
Mast to Drive Axle 755 to 830 N•m (557 to 612 lbf ft)
Tilt Cylinder Adjust 90 N•m (66 lbf ft)

Load Backrest to Carriage Socket Head Capscrews
195 N•m (144 lbf ft)

Fork Carriers to Fork Positioner Frame
220 N•m (160 lbf ft)

STEERING SYSTEM

Hub Nut (Slotted Nut)
203 N•m (150 lbf ft)
34 N•m (25 lbf in)

Steering Axle Mounting Bolts and Nuts
270 N•m (199 lbf ft)

Spindle Bearing Cap Capscrew
47 N•m (35 lbf ft)

Steering Cylinder Mounting Bolts
225 N•m (166 lbf ft)

TRANSMISSION

Oil Baffle Capscrew
25 N•m (18 lbf ft)

Pump Drive Gear Assembly Capscrew
122 N•m (90 lbf ft)

Torque Converter Housing to Transmission Case Socket Head Capscrews
38 N•m (28 lbf ft)

Drive Pump Idler Gear Assembly Capscrew
122 N•m (90 lbf ft)

Control Valve Mounting Capscrews
20 to 25 N•m (15 to 18 lbf ft)

Stator Support Capscrews
25 N•m (18 lbf ft)

Charge Pump to Converter Housing Capscrews
25 N•m (18 lbf ft)

ENGINE, GM 5.7L LPG

Accelerator Control Cable Bracket
12 N•m (106 lbf in)

Belt Idler Pulley
50 N•m (37 lbf ft)

Camshaft Retainer
21 - 29 N•m (15 - 21 lbf ft)

Camshaft Sprocket
30 - 40 N•m (22 - 30 lbf ft)

Connecting Rod
27 N•m (20 lbf ft)

Crankshaft Balancer
95 N•m (70 lbf ft)

Crankshaft Bearing Cap
20 N•m (15 lbf ft)

Crankshaft Oil Deflector
40 N•m (30 lbf ft)

Crankshaft Position Sensor
9 N•m (80 lbf in)

Crankshaft Pulley
58 N•m (43 lbf ft)

Crankshaft Rear Oil Seal Housing Nut and Bolt
12 N•m (106 lbf in)

Crankshaft Rear Oil Seal Housing Retainer Stud
6 N•m (53 lbf in)

Cylinder Head
30 N•m (22 lbf ft)

Drive Belt Tensioner
50 N•m (37 lbf ft)

Engine Flywheel
100 N•m (74 lbf ft)

Engine Front Cover
12 N•m (106 lbf in)

Exhaust Manifold
15 N•m (11 lbf ft)

Fan and Water Pump Pulley
25 N•m (18 lbf ft)

Lower Intake Manifold
3 N•m (27 lbf in)

Oil Pan Drain Plug
25 N•m (18 lbf ft)

Oil Pan Stud
6 N•m (53 lbf in)

Oil Pan Stud Nut
25 N•m (18 lbf ft)

Oil Pan Bolt or Stud
12 N•m (106 lbf in)

Oil Pump Bolt to Rear Crankshaft Bearing Cap
20 N•m (15 lbf ft)

Power Steering Pump
50 N•m (37 lbf ft)

Spark Plug
15 N•m (11 lbf ft)

Throttle Body
9 N•m (80 lbf in)

Transmission Cover
12 N•m (160 lbf in)

Upper Intake Manifold
5 N•m (44 lbf in)

Valve Lifter Guide Retainer
25 N•m (18 lbf ft)

Valve Rocker Arm Cover
12 N•m (160 lbf in)

Water Outlet
25 N•m (18 lbf ft)

Water Pump
45 N•m (33 lbf ft)

ENGINE - KUBOTA 3.8L DIESEL

Alternator Pulley Nut
58.4 to 78.9 N•m (43.1 to 58.2 lbf ft)

Camshaft Position Sensor Mounting Screw
4 to 5 N•m (35 to 44 lbf in)

Camshaft Pulsar Gear Mounting Screw
4.7 to 5.6 N•m (41.6 to 49.6 lbf in)

Camshaft to Cylinder Head Setscrew
24 to 27 N•m (18 to 20 lbf ft)

Common Fuel Rail Mounting Bracket Screw
24 to 27 N•m (18 to 20 lbf ft)

Connecting Rod Bolt
79 to 83 N•m (58 to 61 lbf ft)

Coolant Temperature Sensor Mounting Screw
16 to 23 N•m (12 to 17 lbf ft)

Crankshaft Position Sensor Mounting Screw
4 to 5 N•m (35 to 44 lbf in)

Crankshaft Pulley Bolt
255 to 274 N•m (188 to 202 lbf ft)

Crankcase Housing to Engine Block Mounting Screw
49 to 55 N•m (37 to 41 lbf ft)

Cylinder Head Mounting Screw
98 to 107 N•m (72.4 to 79.5 lbf ft)

Cylinder Head Valve Cover, Lower
7 to 11 N•m (61 to 99 lbf in)

Cylinder Head Cover, Upper
10 to 11 N•m (87 to 99 lbf ft)

Engine Oil Pump Cover Screw
7.9 to 9.3 N•m (70 to 82 lbf in)

Engine Oil Cooler Joint Block
40 to 44 N•m (29 to 32 lbf ft)

Exhaust Manifold Mounting Nut
30 to 34 N•m (22 to 25 lbf ft)

Flywheel Housing Mounting Screw
103 to 117 N•m (76 to 87 lbf ft)

Flywheel Mounting Screw
98 to 107 N•m (72.4 to 79.5 lbf ft)

Fuel Injector Clamp Nut
24 to 27 N•m (18 to 20 lbf ft)

Fuel Pump Gear Cover Mounting Screw
24 to 27 N•m (18 to 20 lbf ft)

Fuel Injection Harness Terminal Nut
1.6 to 2.2 N•m (14 to 19.5 lbf in)

Fuel Injection Pump Assembly Mounting Nut
24 to 27 N•m (18 to 20 lbf ft)

Fuel Injection Pump Assembly Gear Mounting Nut
128 to 147 N•m (94 to 108 lbf ft)

Idler Gear Mounting Screw
24 to 27 N•m (18 to 20 lbf ft)

Intake Air Temperature Sensor
30 to 39 N•m (22 to 28 lbf ft)

Oil Pressure Switch Screw
15 to 19 N•m (11 to 14 lbf ft)

Overflow Pipe Joint Screw
9.8 to 11.2 N•m (86.7 to 99.1 lbf in)

Rocker Arm Bracket Nut
49 to 55 N•m (37 to 41 lbf ft)

Main Bearing Cap Mounting Screw
138 to 147 N•m (102 to 108 lbf ft)

Starter Solenoid Nut (B Terminal)
9.8 to 11 N•m (86.7 to 97.4 lbf in)

Timing Gear Case Cover Mounting Screw
33 to 36 N•m (18 to 20 lbf ft)

Timing Gear Case Plate Mounting Screw
24 to 27 N•m (18 to 20 lbf ft)