



# Service Manual

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## **GP40K, GP40KL, GP45K, GP50K; DP40K, DP40KL, DP45K, DP50K Chassis & Mast**

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<b>GP40K</b>	<b>ET29B-00011-up</b>	<b>DP40K</b>	<b>ET19C-00011-up</b>
<b>GP40KL</b>	<b>ET29B-50001-up</b>	<b>DP40KL</b>	<b>ET19C-50001-up</b>
<b>GP45K</b>	<b>ET29B-80001-up</b>	<b>DP45K</b>	<b>ET19C-80001-up</b>
<b>GP50K</b>	<b>ET33A-50001-up</b>	<b>DP50K</b>	<b>ET28B-50001-up</b>

For use with GM4.3L, S6S  
Engine Service Manual

Product: Caterpillar GP40K/GP40KL/GP45K/GP50K, DP40K/DP40KL/DP45K/DP50K Chassis & Mast Forklifts Service Repair V  
Full Download: <https://www.arepairmanual.com/downloads/caterpillar-gp40k-gp40kl-gp45k-gp50k-dp40k-dp40kl-dp45k-dp50k-chassis-mast-forklifts-service-repair-workshop-manual/>

Sample of manual. Download All 501 pages at:  
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## FOREWORD

This service manual is a guide to servicing of Caterpillar® Lift Trucks. The instructions are grouped by systems to serve the convenience of your ready reference.

Long productive life of your lift trucks depends to a great extent on correct servicing – the servicing consistent with what you will learn from this service manual. We hope you read the respective sections of this manual carefully and know all the components you will work on before attempting to start a test, repair or rebuild job.

The descriptions, illustrations and specifications contained in this manual were of the trucks of serial numbers in effect at the time it was approved for printing. Caterpillar reserves the right to change specifications or design without notice and without incurring obligation.

GP40K, GP40KL, GP45K, and GP50K are powered by GM4.3L gasoline engine.  
DP40K, DP40KL, DP45K, and DP50K are powered by Mitsubishi S6S diesel engine.

### Safety Related Signs

The following safety related signs are used in this service manual to emphasize important and critical instructions:



Indicates a specific potential hazard resulting in serious bodily injury or death.



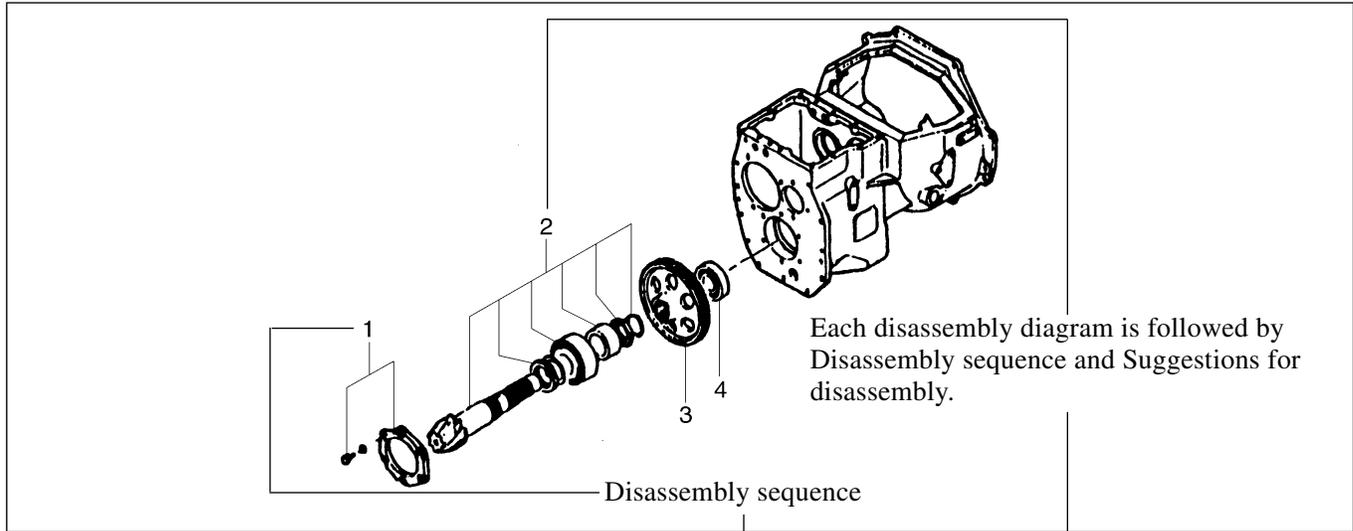
Indicates a specific potential hazard resulting in bodily injury, or damage to, or destruction of, the machine.



Indicates a condition that can cause damage to, or shorten service life of, the machine.

# HOW TO READ THIS MANUAL

## Disassembly diagram (example)

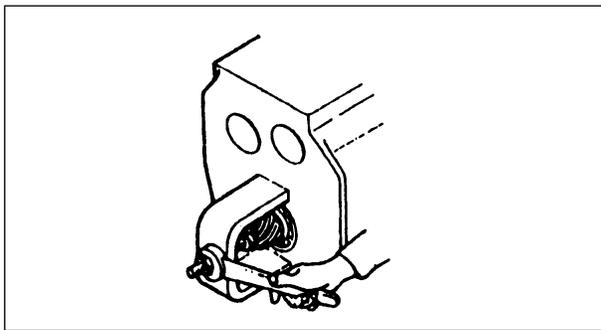


### Sequence

1. Cover, Bolt, Washer (part name)
2. Output shaft (part name)

### Suggestion for disassembly

- (1) Output shaft removal



Unit: mm (in.)

Clearance between cylinder and piston	A	0.020 to 0.105 (0.00079 to 0.00413)
	B	0.15 (0.0059)

A: Standard value    B: Repair or service limit

### Symbols or abbreviations

- OP .....Option
- R1/4.....Taper pipe thread (external) 1/4 inch (formerly PT1/4)
- Rc1/8.....Taper pipe thread (internal) 1/8 inch (formerly PT1/8)
- G1/4A.....Straight pipe thread (external) 1/4 inch (formerly PF1/4-A)
- Rp1/8.....Straight pipe thread (internal) 1/8 inch (formerly PS1/8)

## **SAFETY**

 **WARNING**

The proper and safe lubrication and maintenance for this lift truck, recommended by Caterpillar, are outlined in the **OPERATION & MAINTENANCE MANUAL** for these trucks.

**Improper performance of lubrication or maintenance procedures is dangerous and could result in injury or death. Read and understand the OPERATION & MAINTENANCE MANUAL before performing any lubrication or maintenance.**

The serviceman or mechanic may be unfamiliar with many of the systems on this truck. This makes it important to use caution when performing service work. A knowledge of the system and/or components is important before the removal or disassembly of any component.

Because of the size of some of the truck components, the serviceman or mechanic should check the weights noted in this Manual. Use proper lifting procedures when removing any components.

Following is a list of basic precautions that should always be observed.

1. Read and understand all warning plates and decals on the truck before operating, lubricating or repairing the product.
2. Always wear protective glasses and protective shoes when working around trucks. In particular, wear protective glasses when pounding on any part of the truck or its attachments with a hammer or sledge. Use welders gloves, hood/goggles, apron and other protective clothing appropriate to the welding job being performed. Do not wear loose-fitting or torn clothing. Remove all rings from fingers when working on machinery.
3. Do not work on any truck that is supported only by lift jacks or a hoist. Always use blocks or jack stands to support the truck before performing any disassembly.

 **WARNING**

**Do not operate this truck unless you have read and understand the instructions in the OPERATION & MAINTENANCE MANUAL. Improper truck operation is dangerous and could result in injury or death.**

4. Lower the forks or other implements to the ground before performing any work on the truck. If this cannot be done, make sure the forks or other implements are blocked correctly to prevent them from dropping unexpectedly.
5. Use steps and grab handles (if applicable) when mounting or dismounting a truck. Clean any mud or debris from steps, walkways or work platforms before using. Always face truck when using steps, ladders and walkways. When it is not possible to use the designed access system, provide ladders, scaffolds, or work platforms to perform safe repair operations.
6. To avoid back injury, use a hoist when lifting components which weigh 23 kg (50 lb.) or more. Make sure all chains, hooks, slings, etc., are in good condition and are of the correct capacity. Be sure hooks are positioned correctly. Lifting eyes are not to be side loaded during a lifting operation.
7. To avoid burns, be alert for hot parts on trucks which have just been stopped and hot fluids in lines, tubes and compartments.
8. Be careful when removing cover plates. Gradually back off the last two bolts or nuts located at opposite ends of the cover or device and pry cover loose to relieve any spring or other pressure, before removing the last two bolts or nuts completely.
9. Be careful when removing filler caps, breathers and plugs on the truck. Hold a rag over the cap or plug to prevent being sprayed or splashed by liquids under pressure. The danger is even greater if the truck has just been stopped because fluids can be hot.

10. Always use tools that are in good condition and be sure you understand how to use them before performing any service work.
11. Reinstall all fasteners with same part number. Do not use a lesser quality fastener if replacements are necessary. Do not mix metric fasteners with standard nuts and bolts.
12. If possible, make all repairs with the truck parked on a level, hard surface. Block truck so it does not roll while working on or under truck.
13. Disconnect battery and discharge any capacitors (electric trucks) before starting to work on truck. Hang "Do not Operate" tag in the Operator's Compartment.
14. Repairs, which require welding, should be performed only with the benefit of the appropriate reference information and by personnel adequately trained and knowledgeable in welding procedures. Determine type of metal being welded and select correct welding procedure and electrodes, rods or wire to provide a weld metal strength equivalent at least to that of parent metal.
15. Do not damage wiring during removal operations. Reinstall the wiring so it is not damaged nor will it be damaged in operation by contacting sharp corners, or by rubbing against some object or hot surface. Do not connect wiring to a line containing fluid.
16. Be sure all protective devices including guards and shields are properly installed and functioning correctly before starting a repair. If a guard or shield must be removed to perform the repair work, use extra caution.
17. Always support the mast and carriage to keep carriage or attachments raised when maintenance or repair work is performed, which requires the mast in the raised position.
18. Loose or damaged fuel, lubricant and hydraulic lines, tubes and hoses can cause fires. Do not bend or strike high pressure lines or install ones which have been bent or damaged. Inspect lines, tubes and hoses carefully. Do not check for leaks with your hands. Pin hole (very small) leaks can result in a high velocity oil stream that will be invisible close to the hose. This oil can penetrate the skin and cause personal injury. Use cardboard or paper to locate pin hole leaks.
19. Tighten connections to the correct torque. Make sure that all heat shields, clamps and guards are installed correctly to avoid excessive heat, vibration or rubbing against other parts during operation. Shields that protect against oil spray onto hot exhaust components in event of a line, tube or seal failure, must be installed correctly.
20. Relieve all pressure in air, oil or water systems before any lines, fittings or related items are disconnected or removed. Always make sure all raised components are blocked correctly and be alert for possible pressure when disconnecting any device from a system that utilizes pressure.
21. Do not operate a truck if any rotating part is damaged or contacts any other part during operation. Any high speed rotating component that has been damaged or altered should be checked for balance before reusing.

# GROUP INDEX

GROUP INDEX	Items
<b>GENERAL INFORMATION</b>	Model view, Truck models covered, Serial number locations, Dimensions, Technical data
<b>COOLING SYSTEM</b>	Fan removal and installation, Fan belt inspection and adjustment
<b>ELECTRICAL SYSTEM</b>	Console box, Chassis electrical devices, Lamp bulb specifications, Battery maintenance, Electrical system schematic
<b>POWER TRAIN</b>	Removal and installation
<b>POWERSHIFT TRANSMISSIONS</b>	Torque converter, 1-speed transmission, Control valve, Automatic 2-speed transmission, Solenoid valve, Hydraulic control
<b>FRONT AXLE AND REDUCTION DIFFERENTIAL</b>	Front tires, Front axle, Reduction and differential
<b>REAR AXLE</b>	Rear tires, Rear axle, Toe-in, Minimum turning radius
<b>BRAKE SYSTEM</b>	Master cylinder, Wheel cylinders, Wheel brakes, Brake booster
<b>STEERING SYSTEM</b>	Steering gear, Power cylinder, Flow divider
<b>HYDRAULIC SYSTEM</b>	Hydraulic tank, Hydraulic pump (gear pump), Control valve, Lift and tilt cylinders, Flow regulator valve, Down safety valve
<b>MASTS AND FORKS</b>	Simplex mast, Duplex mast, Triplex mast
<b>SERVICE DATA</b>	Maintenance standards, Periodic service chart, Periodic replacement parts, Lubrication instructions, Special tools
<b>OPTIONS</b>	Radiator screen kit, Radiator plate-fin type kit, Elevated exhaust kit. Anti-corrosion radiator kit, Large capacity corrugate fin radiator kit, etc.

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**13**

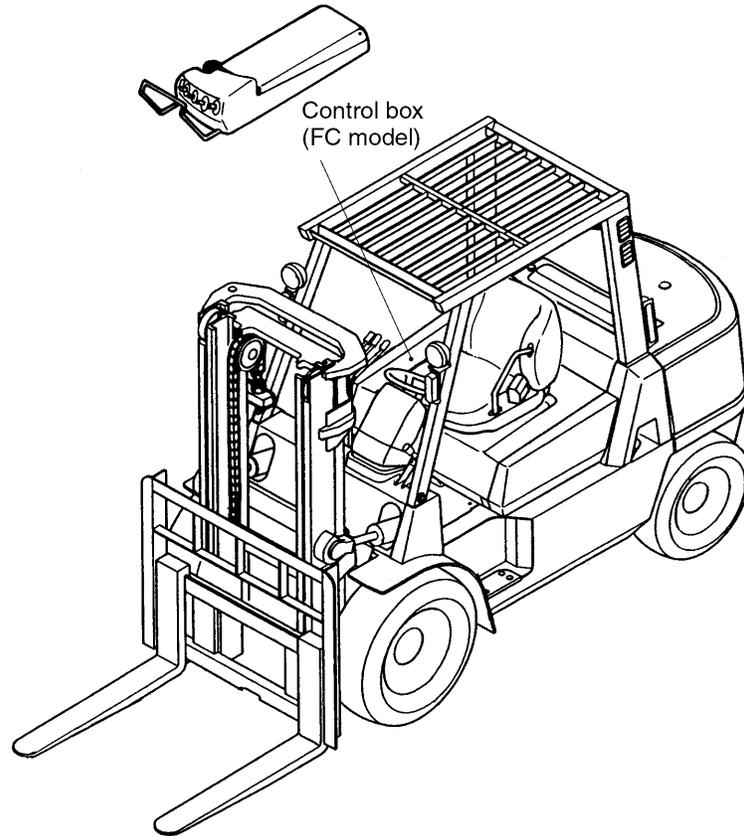


# GENERAL INFORMATION

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**Model View**



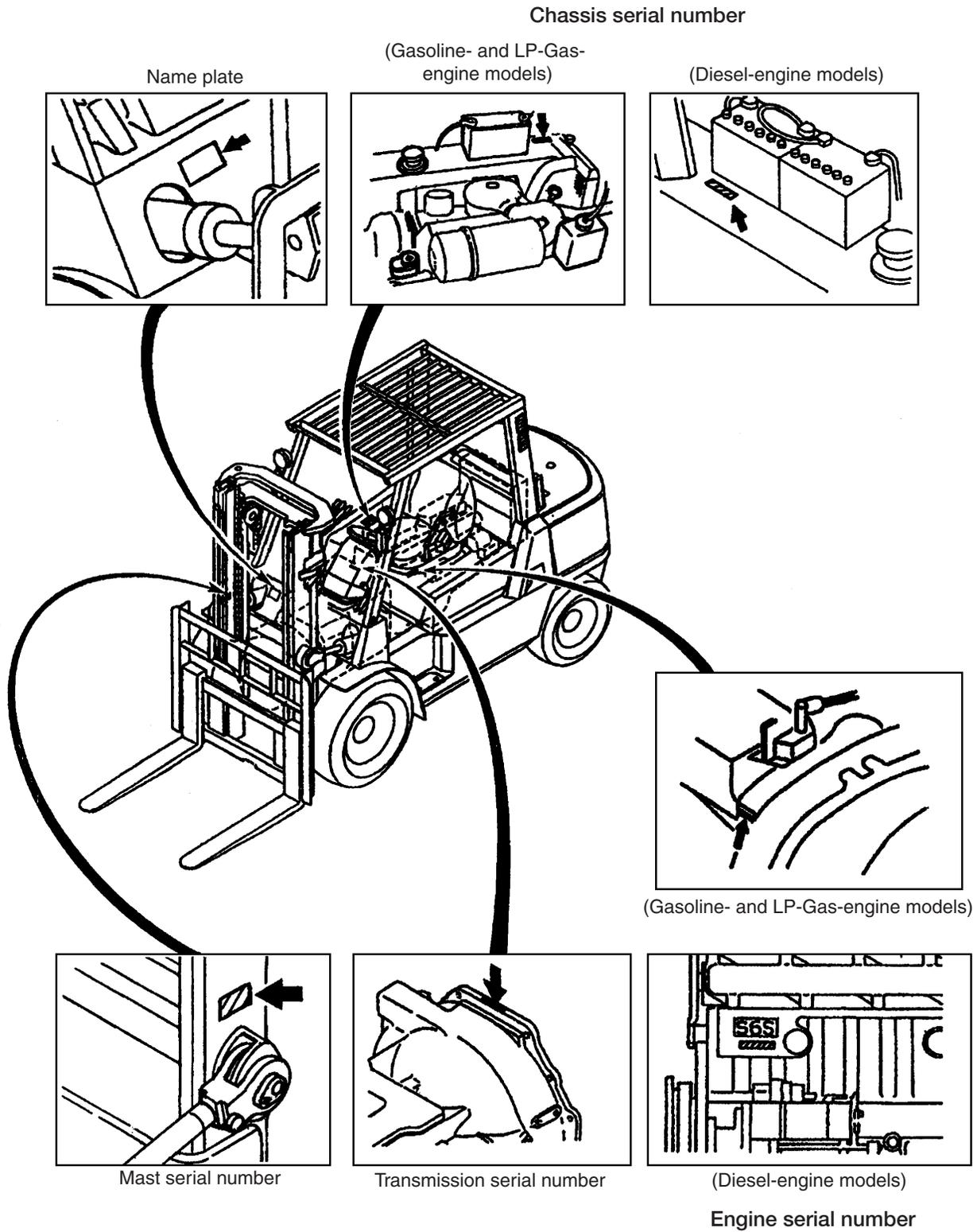
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**Truck Models Covered**

This Service Manual furnishes servicing and maintenance information for the following trucks:

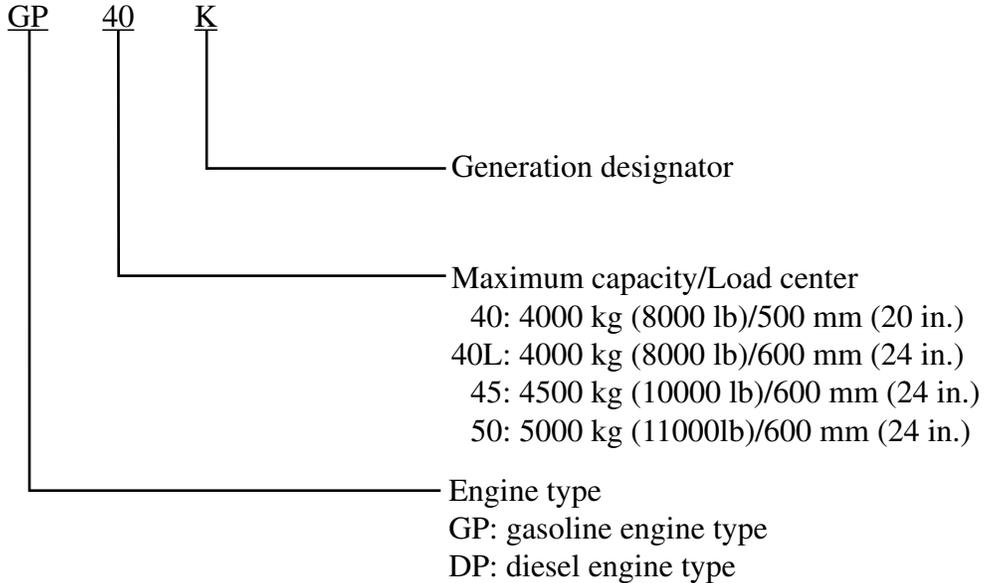
Truck model	Model code – Serial number	Engine mounted
GP40K	ET29B – 00011- up	GM4.3L gasoline engine
GP40KL	ET29B – 50001- up	GM4.3L gasoline engine
GP45K	ET29B – 80001- up	GM4.3L gasoline engine
GP50K	ET33A – 50001- up	GM4.3L gasoline engine
DP40K	ET19C – 00011- up	Mitsubishi S6S diesel engine
DP40KL	ET19C – 50001- up	Mitsubishi S6S diesel engine
DP45K	ET19C – 80001- up	Mitsubishi S6S diesel engine
DP50K	ET28B – 50001- up	Mitsubishi S6S diesel engine

## Serial Number Locations

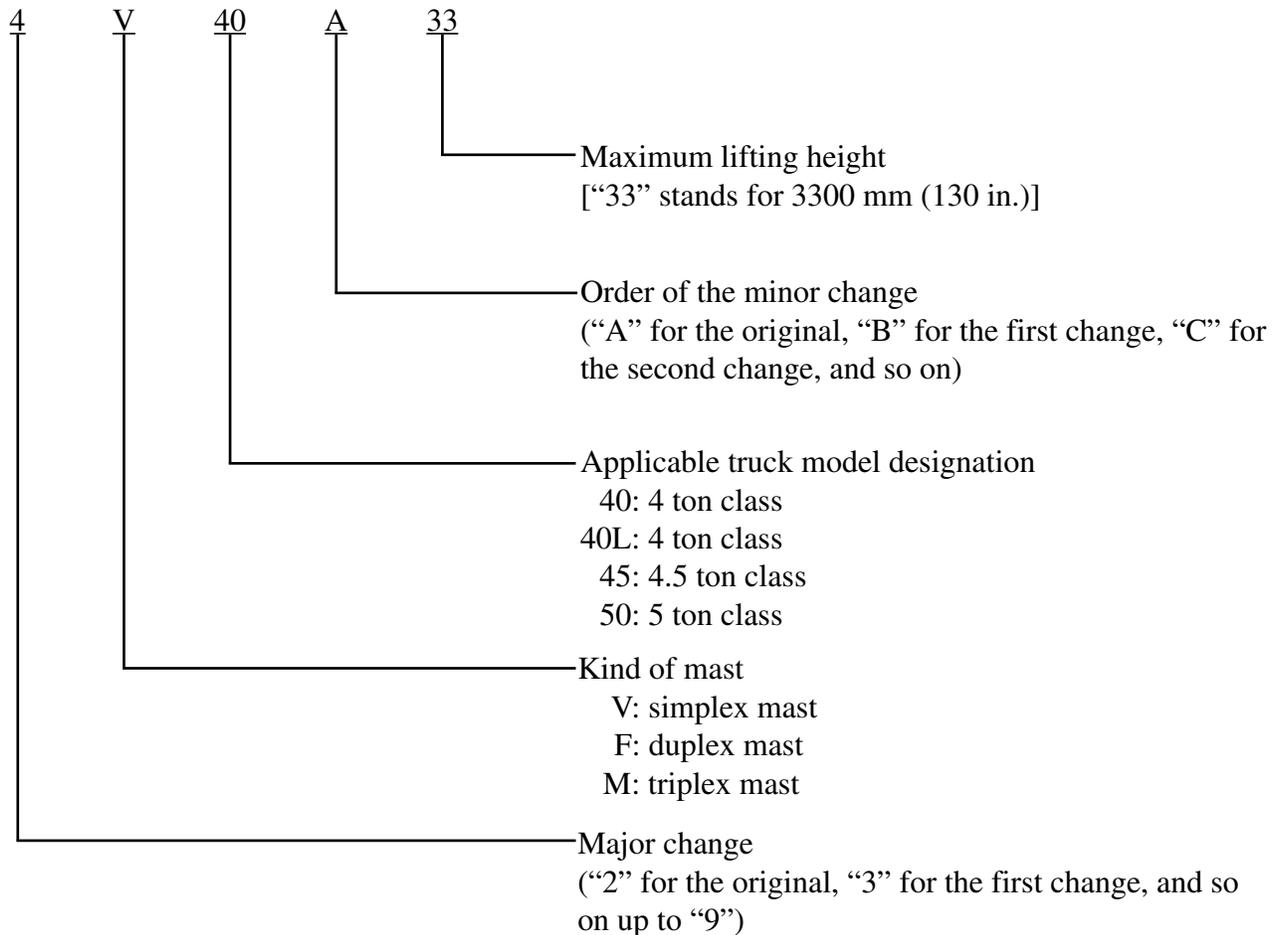


## Chassis and Mast Model Identification

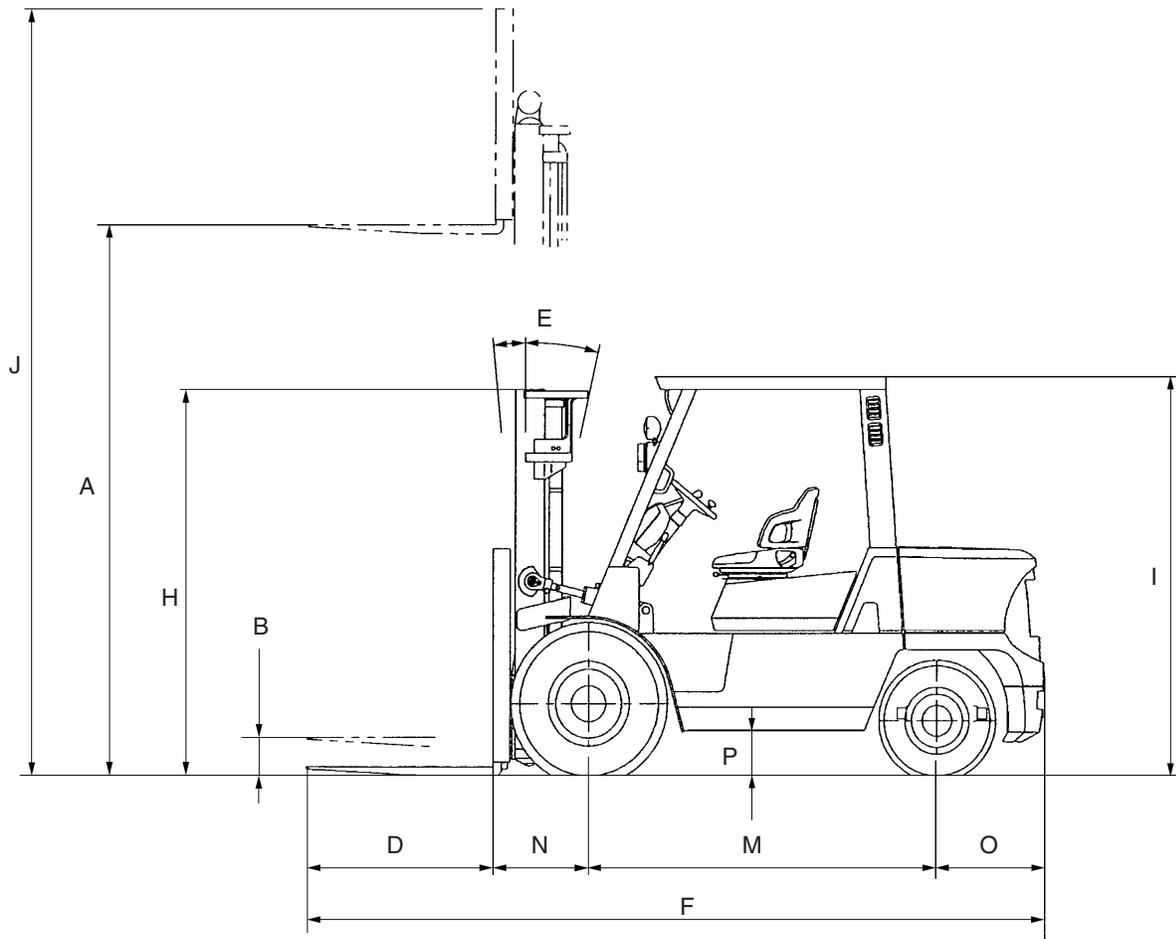
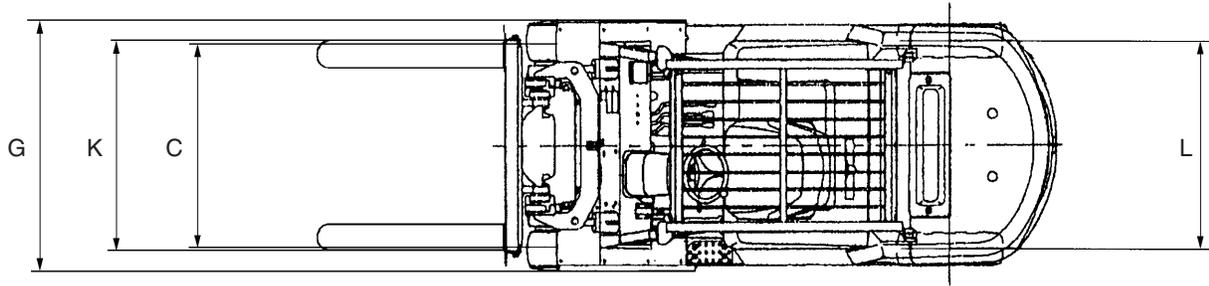
[Chassis]



[Mast]



# Dimensions



202762A

Unit: mm (in.)

Ref. No.	Truck Model		GP40K	GP40KL	GP45K	GP50K
			DP40K	DP40KL	DP45K	DP50K
A	Maximum lift		3300 (130)			
B	Free lift		150 (5.9)			160 (6.5)
C	Fork spread (outside)		300 to 1190 (12 to 47)			
D	Fork length		1220 (48)			
E	Tilt angle (forward – backward)		6° – 10°			
F	Overall length		4290 (168.9)	4340 (170.9)	4395 (173.0)	4525 (178.2)
G	Overall width (outside of tires)	Single tire	1415 (55.7)	1460 (57.5)		
		Dual tire	1780 (70.1)			1965 (77.4)
H	Overall height (to top of mast lowered)		2320 (91.5)		2400 (94.5)	
I	Overall height (to top of overhead guard)		2250 (88.6)			
J	Overall height (mast extended)		4430 (174.4)			4580 (180.5)
K	Tread (front)	Single tire	1175 (46.5)			
		Dual tire	1310 (51.5)			
L	Tread (rear)		1180 (46.5)			
M	Wheelbase		2000 (78.5)			2150 (84.5)
N	Front overhang		557 (21.9)		562 (22.1)	582 (22.9)
O	Rear overhang		513 (20.6)	563 (22.6)	613 (24.4)	573 (22.6)
P	Underclearance (at frame)		252 (9.9)			

**Technical Data**

Item		Truck Model				
		GP40K DP40K	GP40KL DP40KL	GP45K DP45K	GP50K DP50K	
Model code		GP: ET29B DP: ET19C			GP: ET33A DP: ET28B	
Type		Standard				
General	Capacity/load center kgf/mm (lbf/in.)	4000/500 (8000/20)	4000/600 (8000/24)	4500/600 (10000/24)	5000/600 (11000/24)	
	Maximum lift mm (in.)	3300 (130)				
	Lift speed (rate load) mm/sec (fpm)	GP: 510 (100) DP: 500 (98)		GP: 440 (87) DP: 430 (85)	GP: 430 (85) DP: 420 (83)	
	Lowering speed (rate load) mm/sec (fpm)	500 (100)				
	Tilt angle (forward – backward)	6° – 10°				
	Free lift mm (in.)	150 (5.9)			160 (6.5)	
Performance	Travel speed of powershift transmission models km/h (mph)	Forward	19.5 (12)		23.5 (15)	
		Reverse	19.5 (12)		23.5 (15)	
	Minimum turning radius mm (in.)	2735 (107.7)	2775 (109.3)	2820 (111)	2965 (116.7)	
	Steering angle	Inside	83°			
		Outside	56°33'			
	Minimum intersecting aisle mm (in.)	Single tire	2390 (94.1)	2430 (95.7)	2450 (96.5)	2510 (98.8)
Dual tire		2570 (101)	2590 (102)	2620 (103)	2670 (105)	
Tires	Front tires (size and inflation pressure) kPa (kgf/cm <sup>2</sup> ) [psi]	Single tire	8.25-15-14PR (I) 785 (8.0) [114]	300-15-18PR (I) 785 (8.0) [114]		
		Dual tire	7.50-16-12PR (I) 686 (7.0) [99.5]			
	Rear tires (size and inflation pressure) kPa (kgf/cm <sup>2</sup> ) [psi]	7.00-12-14PR (I)				
		686 (7.0) [99.5]		834 (8.5) [121]		
Truck weight	Single drive tire (unloaded) kg (lb)	GP: 5630 (12400) DP: 5710 (12600)	GP: 6030 (13300) DP: 6120 (13500)	GP: 6600 (14500) DP: 6680 (14700)	GP: 7080 (15600) DP: 7160 (15800)	
	Dual drive tire (unloaded) kg (lb)	GP: 5810 (12800) DP: 5900 (13000)	GP: 6160 (13600) DP: 6250 (13800)	GP: 6730 (14800) DP: 6820 (15000)	GP: 7250 (15900) DP: 7320 (16100)	

Truck Model		GP40K	GP40KL	GP45K	GP50K
		Item			
Engine (gasoline and LP-gas)	Engine model	GM4.3L			
	Manufacturer	General Motors			
	Type	Gasoline			
	Cooling system	Water cooled			
	No. of cylinders – arrangement	6 – 90° V			
	No. of strokes	4			
	Type of combustion chamber	Semi -spherical			
	Valve arrangement	Overhead			
	Type of cylinder liners	Integral			
	Cylinder bore × stroke mm (in.)	101.6 × 88.39 (4.00 × 3.48)			
	Displacement cc (cu in.)	4293 (262)			
	Compression ratio	9.2 : 1			
	Rated output kW/rpm	69.5/2450			
	Maximum torque N·m (kgf·m) [lbf·ft]/rpm	305 (31.0) [224]/1200			
	Low idle engine speed rpm	750			
	High idle engine speed rpm	2450			
	Dimensions (L × W × H) mm (in.)	710 × 620 × 740 (28.0 × 24.4 × 29.1)			
	Weight kg (lb)	260 (573)			
	Installation position	Rear			
	Ignition	Spark			
Firing order	1 – 6 – 5 – 4 – 3 – 2				
Initial ignition timing BTDC deg	0° Gasoline/ 8° L.P.G.				
Fuel tank capacity liter (U.S. gal)	115 (30)				

GENERAL INFORMATION

Item		Truck Model		GP40K	GP40KL	GP45K	GP50K
Ignition system	Ignition coil	Type	Mold				
		Manufacturer	AC Delco				
	Distributor	Type	Pointless				
		Manufacturer	AC Delco				
		Type of spark advance control	Internal solid state circuit				
	Spark plug	Model	#41-932				
		Manufacturer	AC Delco				
		Size mm (in.)	14 (0.55)				
Gap mm (in.)		1.24 (0.0488)					
Fuel system	Carburetor	Type	1FZ				
		Manufacturer	AISAN Kogyo Co.				
	Fuel pump	Type	Electromagnetic				
		Manufacturer	Jidosha Kiki				
Air cleaner	Type × Number		Cyclone with paper element × 1				
	Manufacturer		Nippon Rokaki				
Engine lubrication system	Type		Pressure feed				
	Oil pump		Gear pump				
	Oil filter		Paper element				
	Oil cooler		Oil to water type				
	Refill capacities	Oil pan liter (U.S. gal)	4.2 (1.1)				
		Oil filter & cooler liter (U.S. gal)	0.8 (0.2)				
Total liter (U.S. gal)		5.0 (1.3)					

Item		Truck Model	GP40K	GP40KL	GP45K	GP50K
Cooling system	Type	Forced circulation				
	Radiator	Corrugated fin with pressure type				
	Refill capacity	liter (U.S. gal)	17.2 (4.5)			
	Water pump	Centrifugal type driven by V-belt				
	Thermostat	Wax type				
Battery	Type × number	48D26L				
	Voltage	V	12			
	Capacity	AH (5 Hr)	50			
Alternator	Type	3-phase AC				
	Manufacturer	MANDO				
	Rated output	V – A	12 – 50			
	Regulator	Built-in IC type				
Starter	Type	Electromagnetic				
	Manufacturer	Delco Remy				
	Voltage – output	V – kW	12 – 0.75			

**GENERAL INFORMATION**

Item		Truck Model	DP40K	DP40KL	DP45K	DP50K
Engine (diesel)	Engine model		S6S			
	Manufacturer		Mitsubishi Heavy Industries, Ltd.			
	Type		Water-cooled, 4-stroke cycle			
	No. of cylinders – arrangement		6 – in-line			
	Type of combustion chambers		Swirl			
	Valve arrangement		Overhead			
	Type of cylinder liners		Dry			
	Bore × stroke		mm (in.)	94 × 120 (3.70 × 4.72)		
	Displacement		cc (cu in.)	4996 (305)		
	Compression ratio			22 : 1		
	Rated output		kW/rpm	62.5/2450		
	Maximum torque		N·m (kgf·m) [lbf·ft]/rpm	250 (25.5) [184]/1600		
	Dimensions (L × W × H)		mm (in.)	907.5 × 639 × 801 (35.7 × 25.2 × 31.5)		
	Weight (service)		kg (lb)	350 (771)		
	Installation position			Rear		
	Intake valves	Open	BTDC deg	30°		
		Close	ABDC deg	50°		
	Exhaust valves	Open	BBDC deg	74°		
		Close	ATDC deg	30°		
	Valve clearance (at cold)	Intake valves	mm (in.)	0.25 (0.0098)		
Exhaust valves		mm (in.)				
Ignition			Compression			
Firing order			1 – 5 – 3 – 6 – 2 – 4			
Ignition or injection timing		BTDC deg	19°			

Item		Truck Model		DP40K	DP40KL	DP45K	DP50K
Engine (diesel)	Fuel tank capacity liter (U.S.gal)		115 (30)				
	No-load minimum speed rpm		650				
	No-load maximum speed rpm		2450				
Fuel system	Fuel injection pump	Type	Bosch				
		Manufacturer	Nippon Denso				
		Plunger diam. mm (in.)	6.5 (0.256)				
		Cam lift (one side) mm (in.)	6 (0.24)				
	Fuel injection nozzles	Type	Throttle				
		Spray holes diam. mm (in.)	1.0 (0.04)				
		Injection pressure kPa (kg/cm <sup>2</sup> ) [psi]	1372 (140) [1992]				
	Glow plugs	Type	Sheathed				
		Voltage – current V – A	22 – 4.4				
	Fuel pump	Type	Plunger				
		Manufacturer	Nippon Denso				
	Air cleaner	Type × number	Cyclone with paper element × 1				
Manufacturer		Nippon Rokaki					
Lubrication system	Type		Pressure feed				
	Oil pump		Trochoid type				
	Oil filter		Paper element type				
	Refill capacities liter (U.S. gal)	Oil pan	11 (2.9)				
		Oil filter	1 (0.3)				
Total		12 (3.2)					

GENERAL INFORMATION

Item		Truck Model	DP40K	DP40KL	DP45K	DP50K	
Cooling system	Type	Forced circulation					
	Radiator	Corrugated fin with pressure cap					
	Refill capacity liter (U.S. gal)	14.7 (3.9)					
	Water pump	Centrifugal type driven by V-belt					
	Thermostat	Wax type					
Battery	Type × number	48D26R × 2					
	Voltage	V	24				
	Capacity	Ah	50				
Alternator and regulator	Alternator type	3-phase AC					
	Capacity	V – A	24 – 35				
	Voltage/current regulator	Built-in					
Starter	Type	Electromagnetic					
	Manufacturer	Mitsubishi Electric Corporation					
	IC type						
Engine stop device	Voltage – output	V – kW	24 – 5				
		Manufacturer	Shin Dengen Kogyo				
	Control timer	Setting	sec	5 to 7			
		Operating voltage	V	16 to 30			
	Stop solenoid	Rated current (at 24 V)	V	11.3			
		Manufacturer	Mitsubishi Electric Corporation				
	Detector (magnetic)	Output	mA	180 minimum			

Item		Truck Model		GP40K DP40K	GP40KL DP40KL	GP45K DP45K	GP50K DP50K
		Power train	Clutch (DP40K thru DP45K)	Type		Dry, single disc (OP: wet type)	
Facing (OD × ID), mm (in.)				325 × 210 (12.8 × 8.3) [wet: 325 × 225 (12.8 × 8.9)]			
Material				DR-8 (wet: cork)			
Torque converter	Type		3-element, 1-stage, 2-phase				
	Manufacturer's model		Okamura M15				
	Stall torque ratio		3.2				
Powershift transmission	Control and shift		Hydraulic and column shift				
	Ratios		Forward	4.044			F1: 5.735 F2: 3.239
			Reverse	4.057			R1: 5.735 R2: 3.239
	Manual transmission (DP40K thru DP45K)		Type		Synchro-mesh		
Shift			Floor-shift				
Forward ratio			1st	8.462			
			2nd	4.145			
Reverse ratio			1st	8.489			
			2nd	4.159			
Reduction gear	Type of gear		Spiral bevel				
	Gear ratio		4.857				
Differential	Housing		Banjo				
	Type of gear – number		Straight bevel – 2				
	Type of pinion – number		Straight bevel – 4				

GENERAL INFORMATION

Item		Truck Model	GP40K DP40K	GP40KL DP40KL	GP45K DP45K	GP50K DP50K	
Steering system	Type	Recirculating ball-and-nut					
	Gear ratio	20.0					
	Steering wheel diameter mm (in.)	380 (15)					
	Power steering	Type	Semi-integral				
		Power cylinder ID × rod diam. mm (in.)	55 × 25 (2.17 × 0.98)				
		Effective stroke mm (in.)	275 (10.8)				
Relief pressure kPa (kgf/cm <sup>2</sup> ) [psi]		8336 <sup>+490</sup> <sub>0</sub> (85 <sup>+5</sup> <sub>0</sub> ) [1209 <sup>+71</sup> <sub>0</sub> ]					
Flow rate liter (U.S. gal)/min	17.5 ± 0.5 (4.6 ± 0.13)						
Traveling system	Front axle	Full-floating tubular type					
	Rear axle	Elliott type					
	Suspension system	Front	Fixed type				
		Rear	Center-pivot type				
	Wheel alignment	Toe-in mm (in.)	0				
		Camber	1.0°				
Caster		0°					
Kingpin inclination		5.0°					
Brake system	Type	Self-adjusting, duo-servo					
	Drum diameter mm (in.)	317.5 (12.50)					
	Lining (length × width × thickness – number) mm (in.)	351 × 60 × 6 – 2 (13.8 × 2.4 × 0.2 – 2)			332 × 63 × 10 – 2 (13.1 × 2.5 × 0.4 – 2)		
	Master cylinder ID mm (in.)	22.22 (0.8748)			25.4 (1.000)		
	Wheel cylinder ID mm (in.)	28.58 (1.1252)			31.75 (1.2500)		
	Parking brake	Type	Mechanical, mounted on wheels				
Brake booster		Mastervac (vacuum suspended)					
Body		Assembled-frame type					

Item		Truck Model		GP40K DP40K	GP40KL DP40KL	GP45K DP45K	GP50K DP50K
		Hydraulic system	Hydraulic pump	Type	Gear		
Manufacturer	Shimazu						
Manufacturer's type	SGP2B50L979						
Rated discharge liter (U.S. gal)/rpm	110 (29.0)/2450						
Drive line	Universal joint						
Control valve	Type		KVS-120VPF-2				
	Manufacturer		Kayaba				
	Relief pressure MPa (kgf/cm <sup>2</sup> ) [psi]		19.1 (195) [2773]				
Flow regulator valve	Type		Variable (Adjustable)				
	Regulated flow rate liter (U.S. gal)/min		100 (26.4)			115 (30.4)	
Lift cylinders	ID mm (in.)		65 <sup>+0.1</sup> <sub>0</sub> (2.56 <sup>+0.004</sup> <sub>0</sub> )			70 <sup>+0.1</sup> <sub>0</sub> (2.76 <sup>+0.004</sup> <sub>0</sub> )	
	Stroke mm (in.)		1500 (59.06)				
Tilt cylinders	ID mm (in.)		80 <sup>+0.1</sup> <sub>0</sub> (3.15 <sup>+0.004</sup> <sub>0</sub> )			90 <sup>+0.1</sup> <sub>0</sub> (3.54 <sup>+0.004</sup> <sub>0</sub> )	
	Stroke mm (in.)		185 (7.28)				
Hydraulic tank capacity liter (U.S. gal)			L: 56.5 (14.9) N: 58.7 (15.5) H: 64.4 (17.0)				

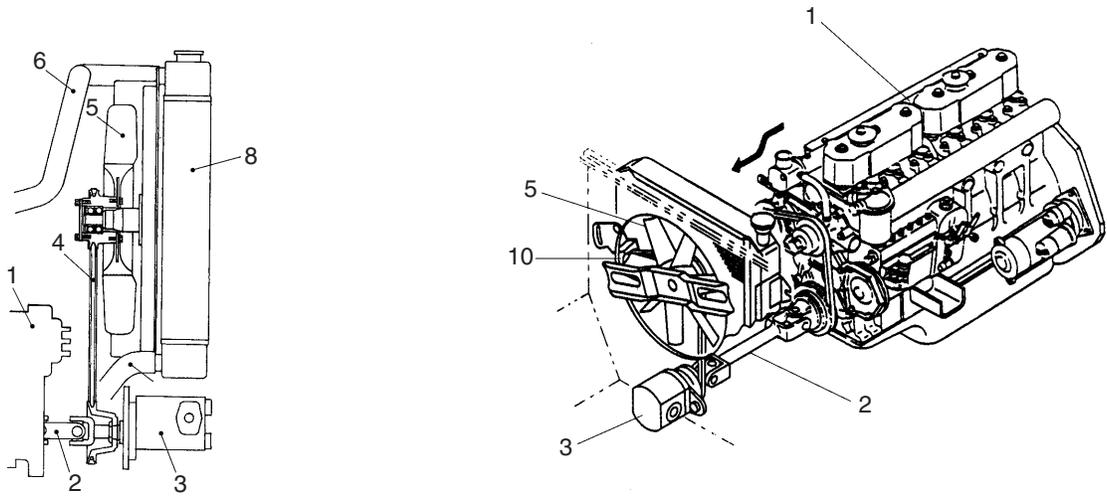


# COOLING SYSTEM

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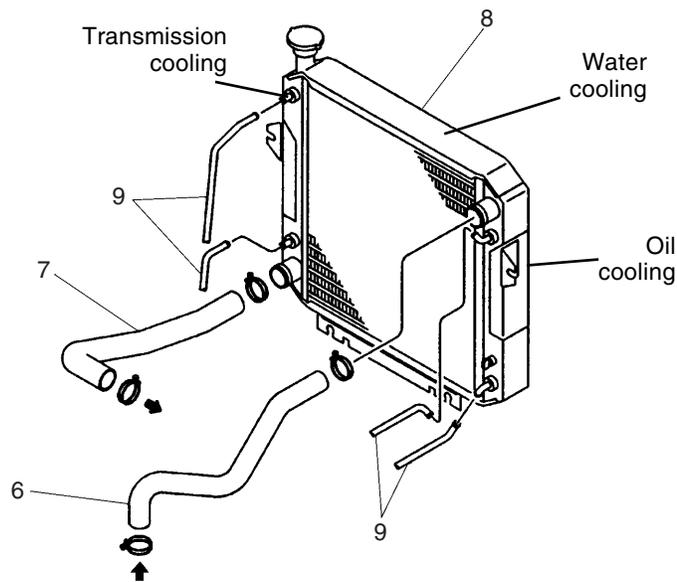


Structure



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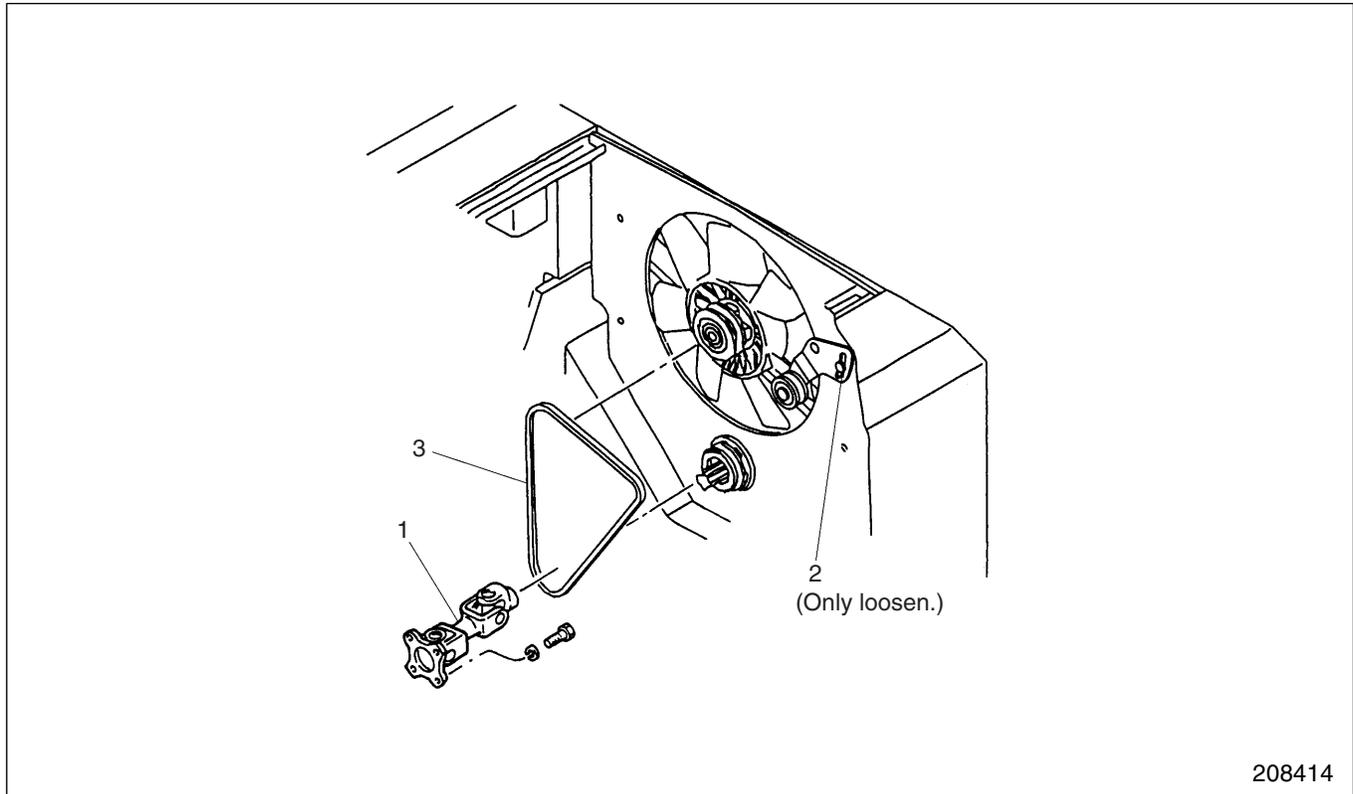
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- |                   |                    |
|-------------------|--------------------|
| 1 Engine          | 6 Upper hose       |
| 2 Universal joint | 7 Lower hose       |
| 3 Gear pump       | 8 Radiator         |
| 4 Fan belt        | 9 Oil cooler hoses |
| 5 Cooling fan     | 10 Tension pulley  |

## Fan Belt Removal



### Sequence

- 1 Universal joint
- 2 Tension pulley assembly, Bolt
- 3 Fan belt

### Start by:

Remove the radiator cover.

### Suggestion for removal

- (1) Using a ratcheting wrench inserted in the gap between the weight and frame, loosen the tension pulley lock bolt by three or four turns. If the bolt is loosened insufficiently, the tension pulley will not be moved.

#### NOTE

Do not loosen the lock bolt to such an extent that the tension pulley would be removed.

- (2) Move the tension pulley fully toward the fan, then remove the belt.

Sample of manual. Download All 501 pages at:

<https://www.arepairmanual.com/downloads/caterpillar-gp40k-gp40kl-gp45k-gp50k-dp40k-dp40kl-dp45k-dp50k-chassis-mast-for>

