SHOP MANUAL

KOMATSU

WF450T-1A

MACHINE MODEL	SERIAL No.
WF450T-1A	10001 and up

- This shop manual explains about only sections different from those for WA450-1 (for the machines with serial numbers after 20001). For the machines not described in this manual, see the WA450-1 shop manual.
- This shop manual may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require.
  Materials and specifications are subject to change without notice.
- WF450T-1A mount the S6D125-1 engine.
  For details of the engine, see the 6D125-1 Series Engine Shop Manual.

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The affected pages are indicated by the use of the following marks. It is requested that necessary actions be taken to these pages according to the table below.

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○	Page to be newly added	Add
●	Page to be replaced	Replace
( )	Page to be deleted	Discard

Pages having no marks are those previously revised or made additions.

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WEIGHT TABLE

⚠ This weight table is a guide for use when transporting or handling components.

Unit: kg

Machine model	WF450T-1A
Serial No.	10001 and up
Engine	1,060
Radiator	165
Torque converter	195
Transmission	770
Damper	85
Upper drive shaft	16
Center drive shaft	28
Front drive shaft	34
Rear drive shaft	32
Front axle	1,477
Rear axle	1,430
Front differential	240
Rear differential	220
Planetary carrier (x1)	69
Planetary hub (x1)	69
Axle pivot (rear axle)	70/85
Steel wheel (x1), triangular foot type	1,525
Steel wheel (x1), chopper type	1,210
Steering valve	55
Steering cylinder (x1)	40
Brake (x1)	110
Hydraulic tank	270
Hydraulic pump	13
Switch pump	13
Steering pump	12
Main control valve	57
Lift cylinder (x1)	127
Tilt cylinder	67
Engine hood	90
Front frame	1,800
Rear frame	1,520
Blade ass'y (with cutting edge, end bit)	1,485

41K01

Unit: kg

Machine model	WF450T-1A
Serial No.	10001 and up
Blade	1,350
Bumper	225
Fuel tank	205
Battery (x1)	45
Cab	305
Air conditioner unit	23
Operator's seat	40
Floorboard	100

★ This table gives the weights of assemblies needed for lifting work or cooperative work in hauling operations.

41K01

TABLE OF OIL AND COOLANT QUANTITIES

RESERVOIR	KIND OF FLUID	AMBIENT TEMPERATURE	CAPACITY (ℓ)	
		−22 − 4 14 32 50 68 86 104 122°F −30 −20 −10 0 10 20 30 40 50°C	Specified	Refill
Engine oil pan	Engine oil	SAE30 / SAE10W / SAE10W-30 / SAE 15W-40	32	26
Transmission case	Engine oil	SAE30 / SAE10W	61	59
Hydraulic system (incl. brake system)	Engine oil	SAE10W	230	148
Axle		See NOTE (4)	(Front) 65 (Rear) 65	65 65
Fuel tank	Diesel fuel	ASTM D975 No. 2 / ASTM D975 No. 1	340	—
Cooling system	Water	Add antifreeze	66	—

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ASTM: American Society of Testing and Material
SAE: Society of Automative Engineers
Specified capacity: Total amount of oil including oil for components and oil in piping.
Refill capacity: Amount of oil needed to refill system during normal inspection and maintenance.

NOTE:

(1) When fuel sulphur content is less than 0.5%, change oil in the oil pan every periodic maintenance hours described in this manual.
Change oil according to the following table if fuel sulphur content is above 0.5%.

Fuel sulphur content	Change interval of oil in engine oil pan
0.5 to 1.0%	1/2 of regular interval
Above 1.0%	1/4 of regular interval

(2) When starting the engine in an atmospheric temperature of lower than 0°C, be sure to use engine oil of SAE10W, SAE10W-30 and SAE15W-40, even though an atmospheric temperature goes up to 10°C more or less in the day time.

(3) Use API classification CD as engine oil and if API classification CC, reduce the engine oil change interval to half.

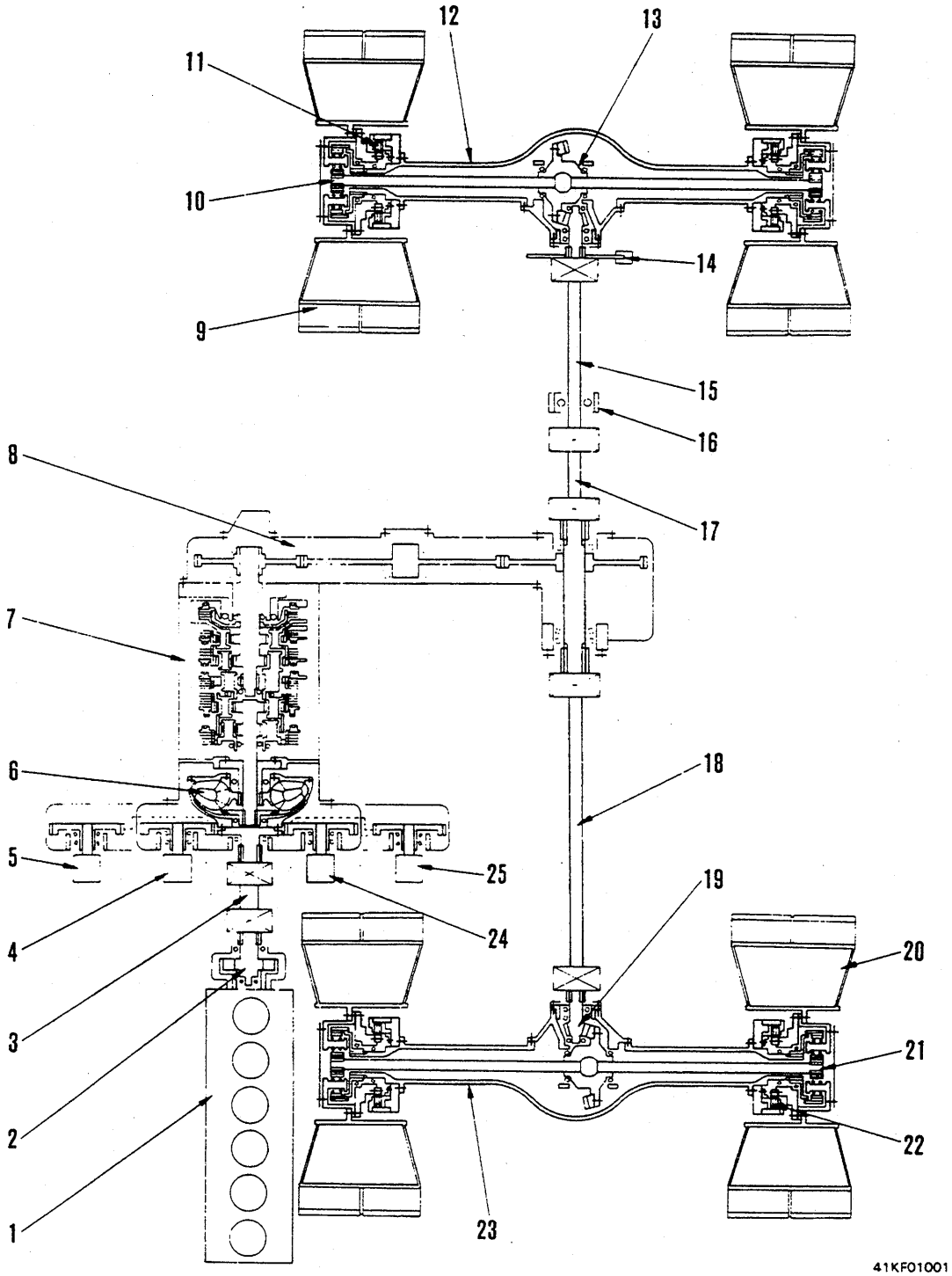
(4) For axle oil, use only recommended oil as follows.
SHELL: DONAX TT OR TD
CALTEX: RPM TRACTOR HYDRAULIC FLUID
CHEVRON: TRACTOR HYDRAULIC FLUID
TEXACO: TDH OIL
MOBIL: MOBILAND SUPER UNIVERSAL

★ It is possible to substitute engine oil CLASS-CD SAE30 for axle oil.
If noise comes from the brake, it is no problem of durability.

10 STRUCTURE AND FUNCTION

41K01

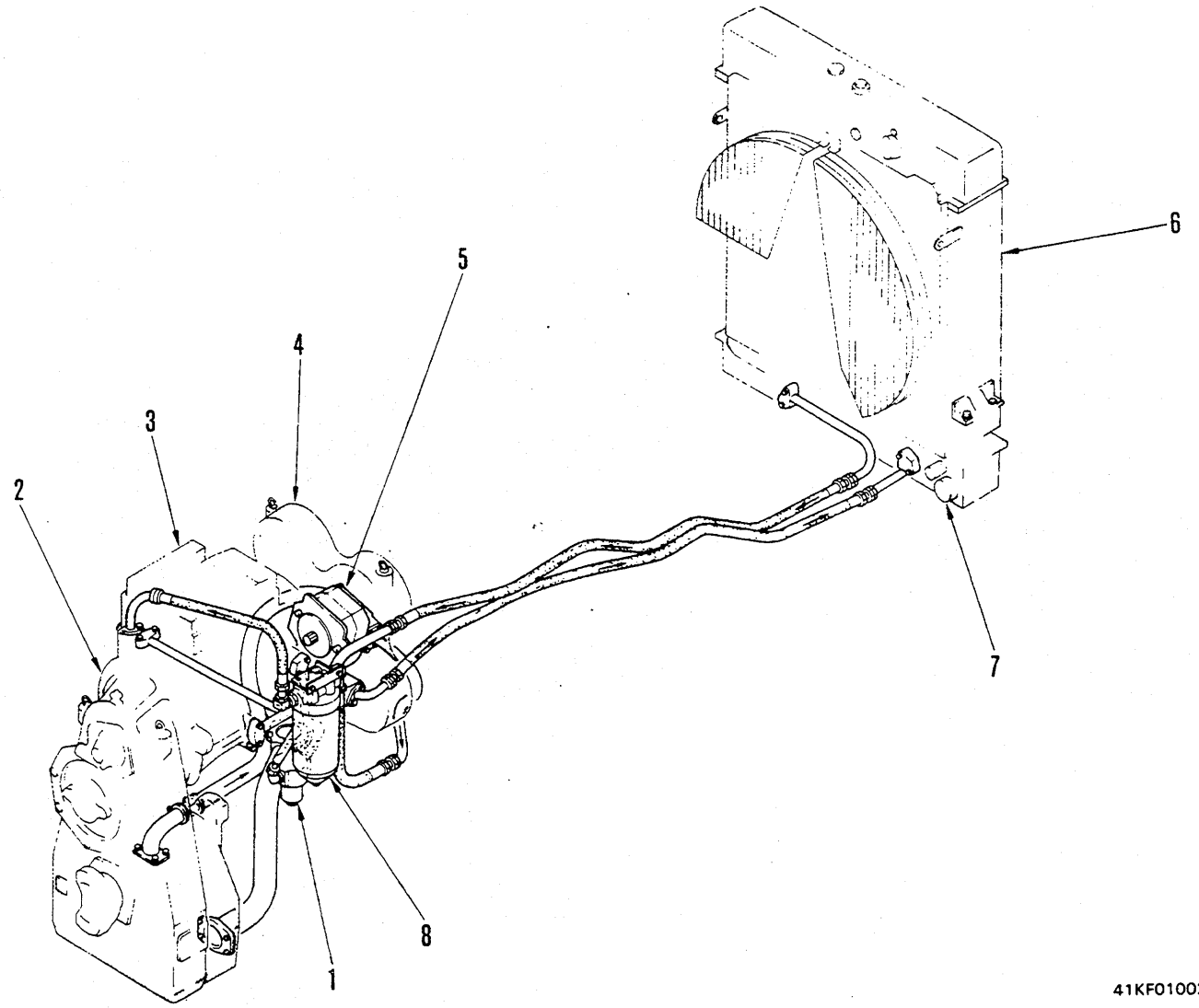
★ For details of components not listed above, see the manual for WA450-1, Serial No. 20001 and up.



41K01

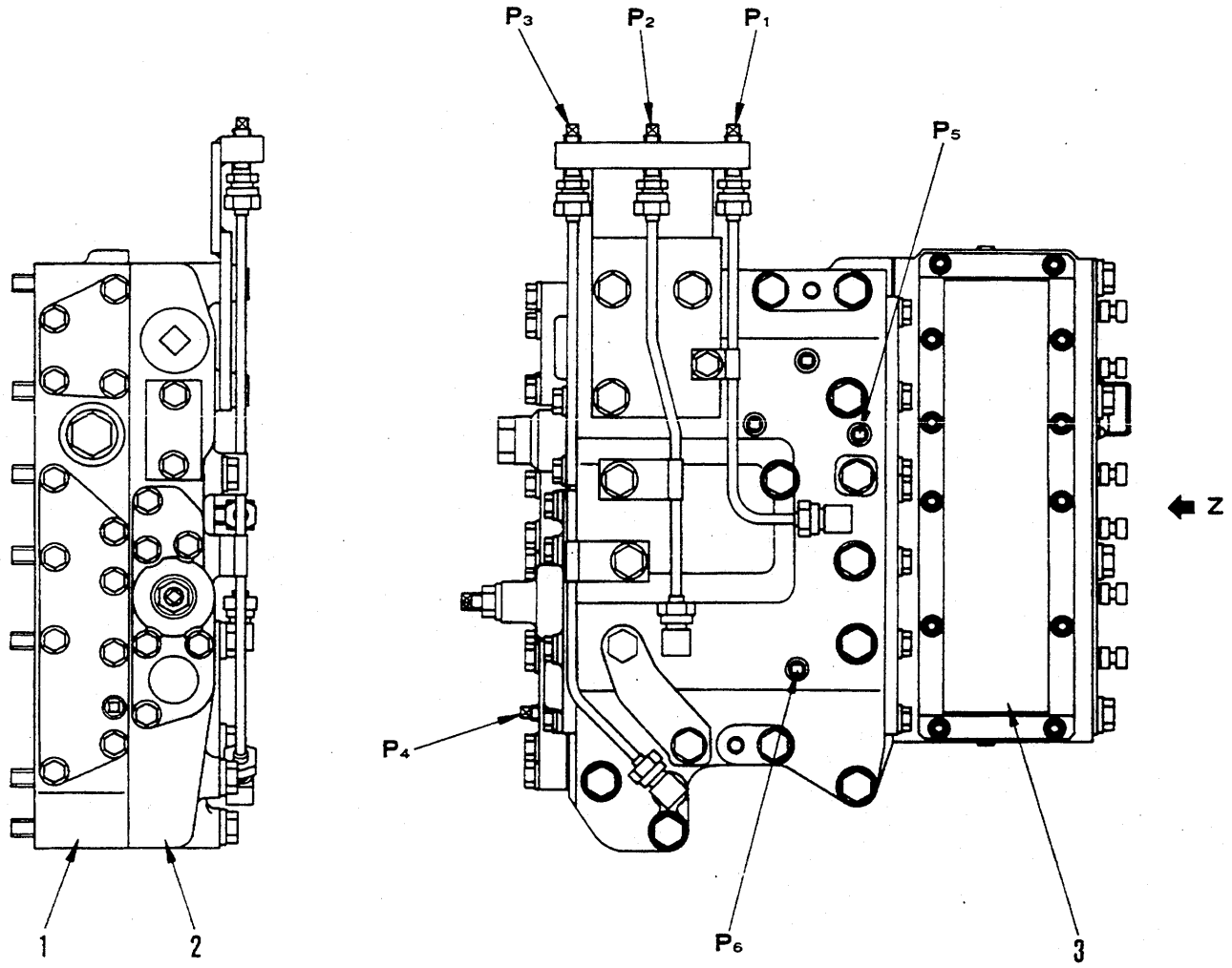
1. Engine (S6D125-1)
2. Damper
3. Upper drive shaft
4. Switch pump
5. Steering pump
6. Torque converter
7. Transmission
8. Transfer
9. Front wheel
10. Front final drive
11. Front brake
12. Front axle
13. Front differential, mechanically connected type
14. Parking brake
15. Front drive shaft
16. Flange bearing
17. Center drive shaft
18. Rear drive shaft
19. Rear differential, mechanically connected type
20. Rear wheel
21. Rear final drive
22. Rear brake
23. Rear axle
24. Hydraulic upmp
25. Torque converter charging pump

TORQUE CONVERTER AND TRANSMISSION PIPING



1. Transmission pilot filter
2. Transmission
3. Transmission control valve
4. Torque converter
5. Torque converter charging pump
6. Radiator
7. Oil cooler
8. Torque converter oil filter

TRANSMISSION CONTROL VALVE

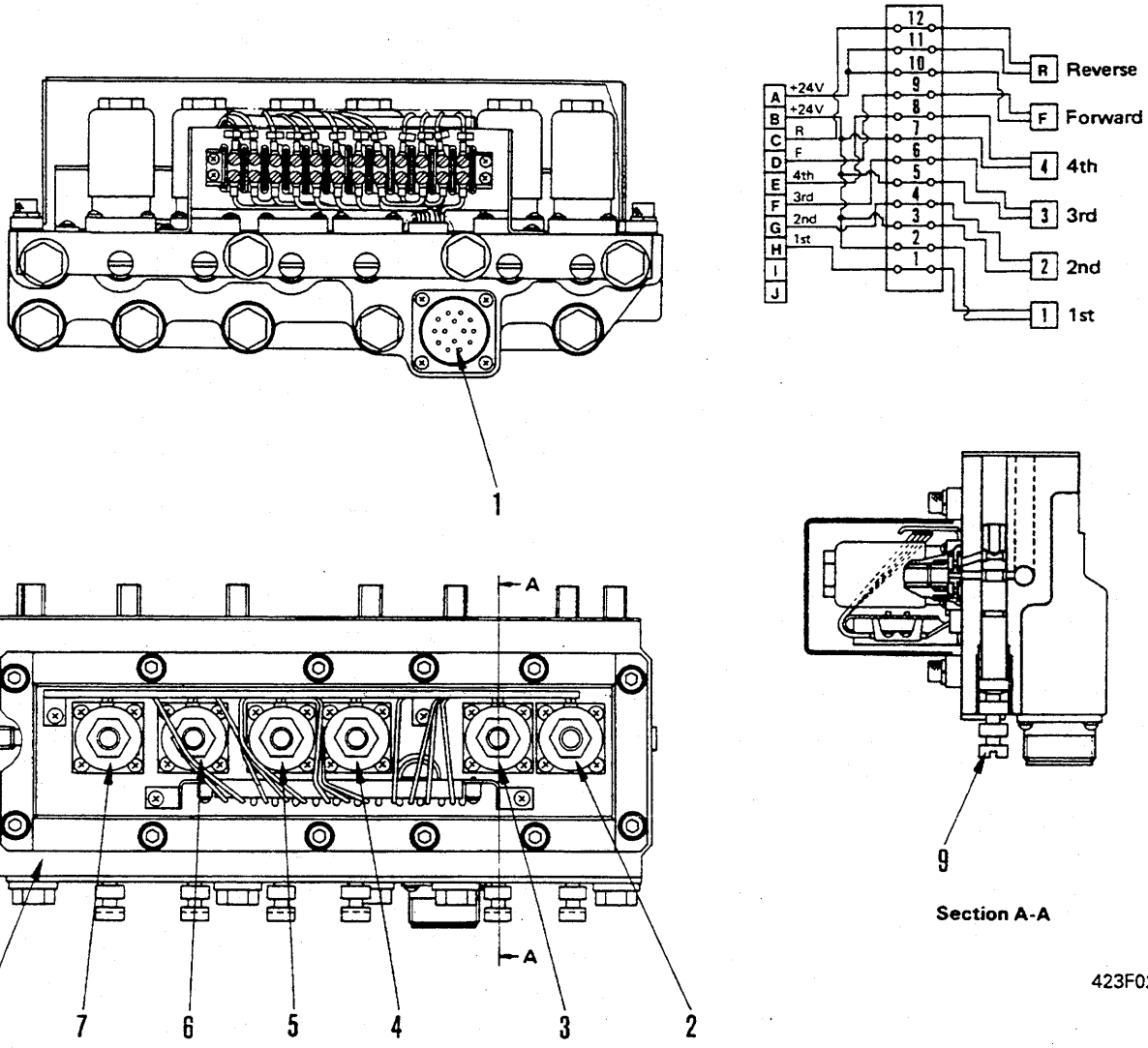


41K01

1. Lower valve
2. Upper valve
3. Transmission solenoid valve
4. Connector

P_1 Modulating pressure pick-up
P_2 Torque converter relief pressure pick-up
P_3 Transmission lubricating pressure pick-up
P_4 Pilot reducing pick-up
P_5 Accumulator pressure pick-up
P_6 Priority pressure pick-up

41KF01003



41K01

423F026-1

1. Connector
2. 1st solenoid valve
3. 2nd solenoid valve
4. 3rd solenoid valve
5. 4th solenoid valve
6. FORWARD solenoid valve
7. REVERSE solenoid valve
8. Body
9. Emergency manual spool

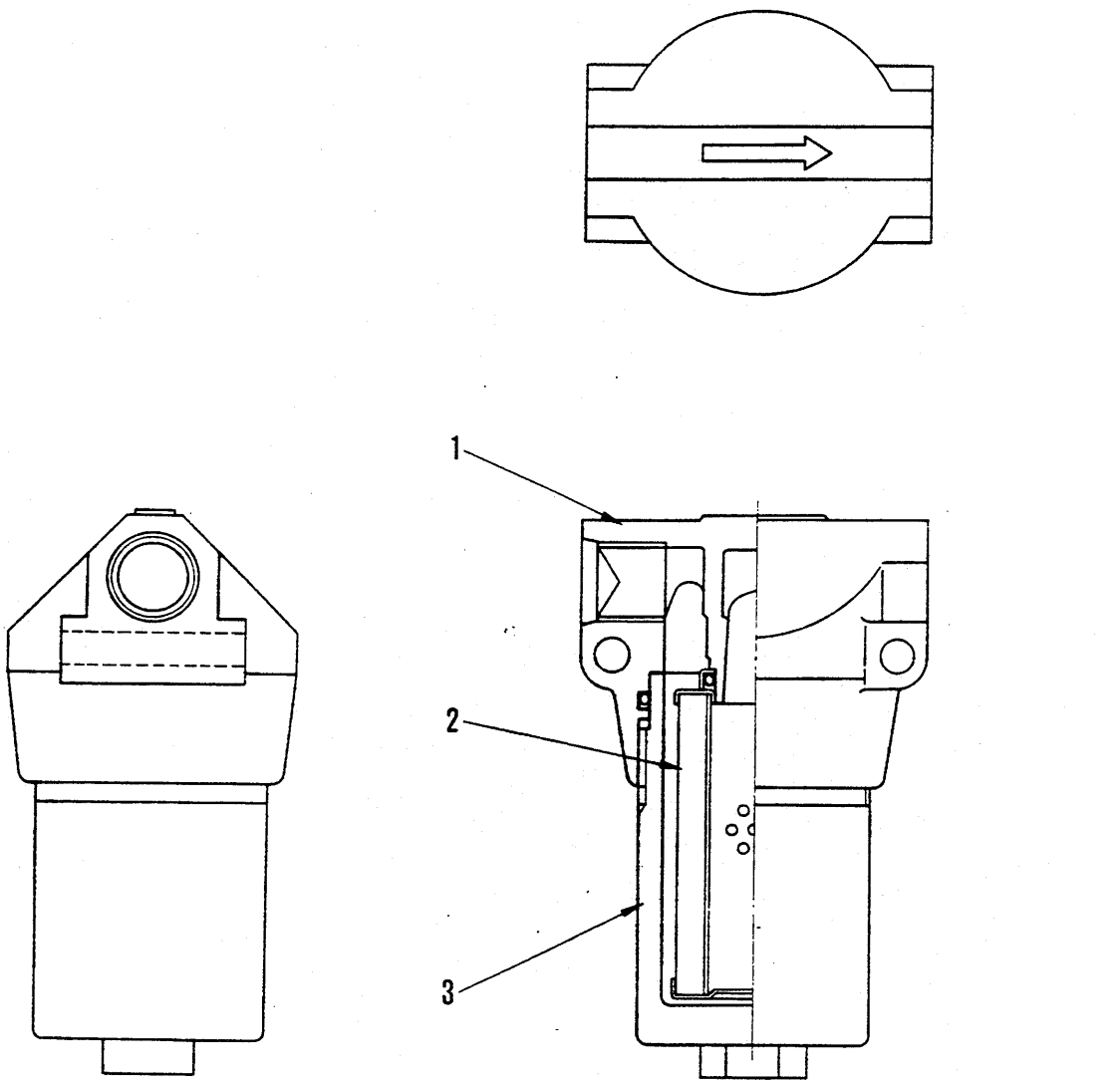
Actuation table for solenoid valve and clutch

	F	R	1	2	3	4
F1	○		○			
F2	○			○		
F3	○				○	
F4	○					○
N						
R1		○	○			
R2		○		○		
R3		○			○	
R4		○				○

STRUCTURE

- The transmission solenoid valve is installed to the transmission together with the transmission valve. When the directional lever or speed control lever are operated, the solenoid valve is actuated and moves the spool inside the transmission valve.

TRANSMISSION PILOT FILTER



41KF01004

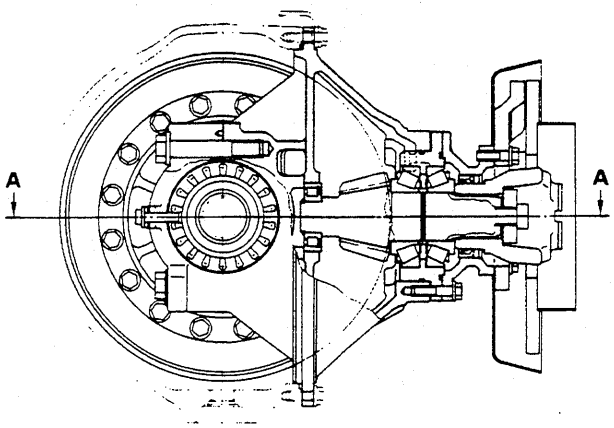
41K01

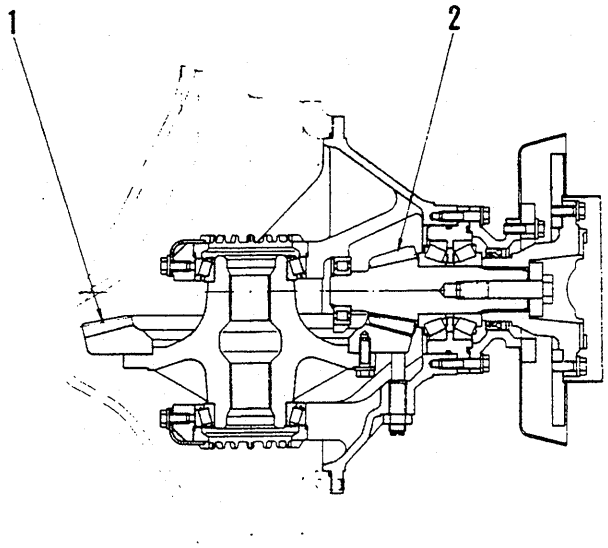
1. Oil filter head
2. Element
3. Case

Specification:
Filtration area: 370 cm^2

AXLE

FRONT DIFFERENTIAL





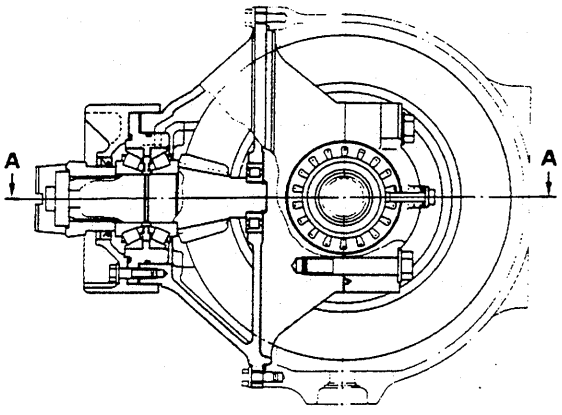
Section A-A

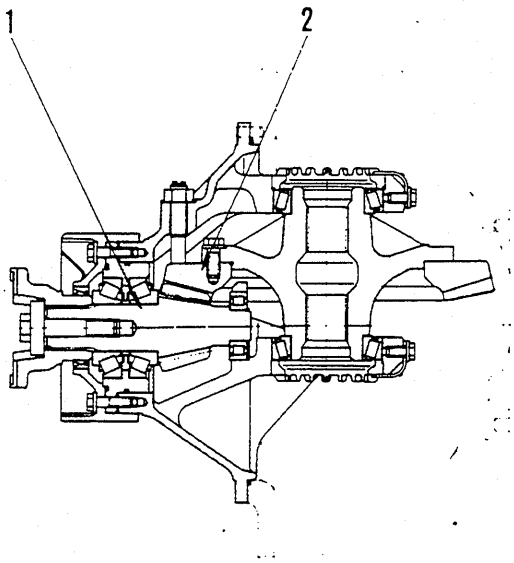
41KF01005

1. Bevel gear (Teeth 42)
2. Bevel pinion (Teeth 9)

41K01

REAR DIFFERENTIAL





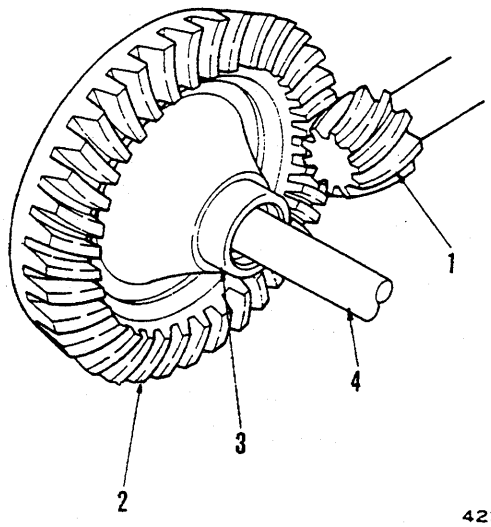
Section A-A

41KF01006

1. Bevel pinion (Teeth 9)
2. Bevel gear (Teeth 42)

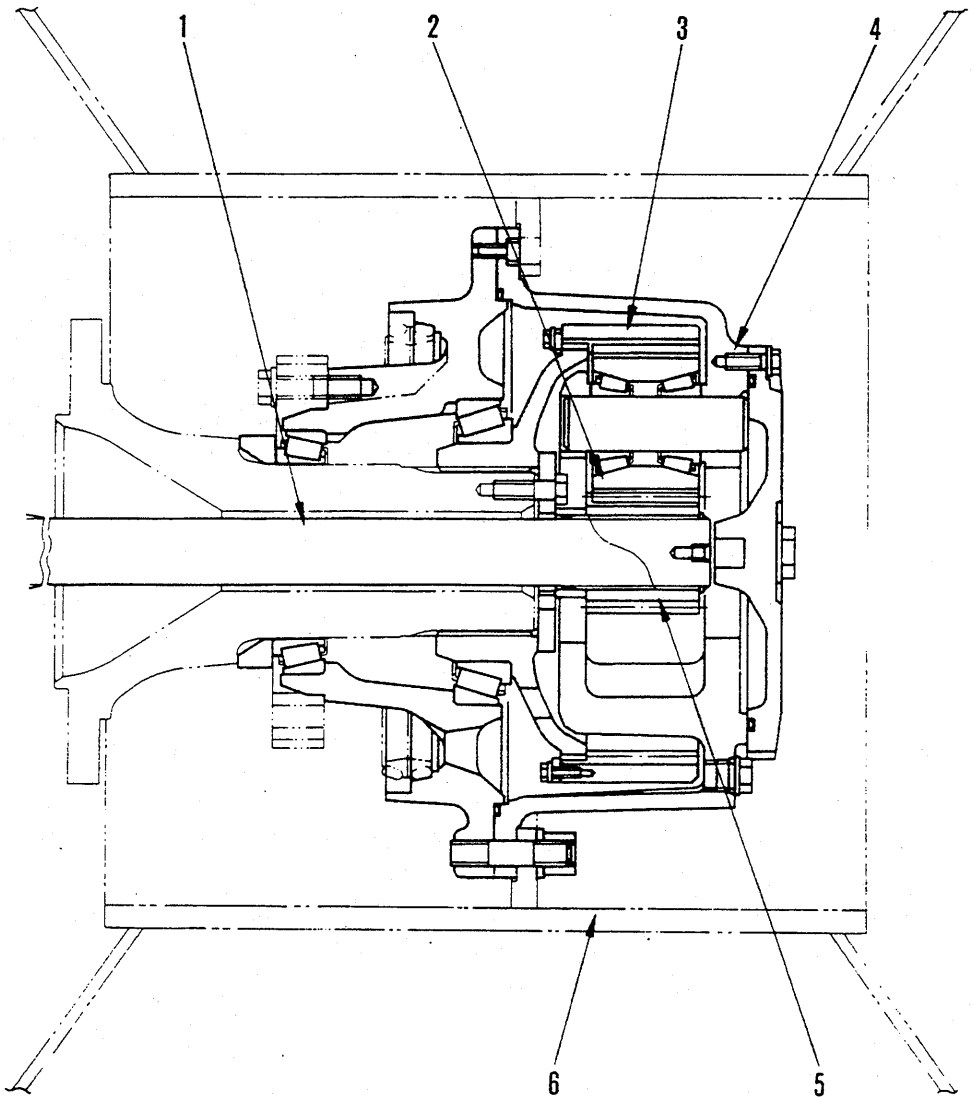
OUTLINE

- The motive force from the drive shaft passes through bevel pinion (1) and is transmitted to the bevel gear (2). The bevel gear changes the direction of the motive force by 90°, and at the same time reduces the speed. It then transmits the motive force through the differential case (3) to the sun gear shaft (4).



423F059

41K01

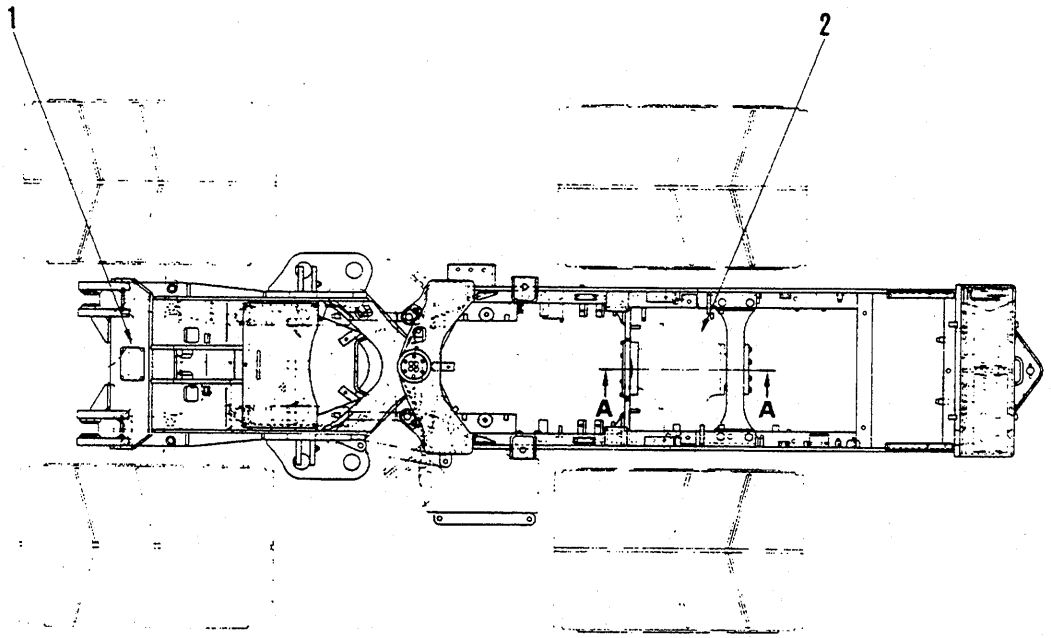


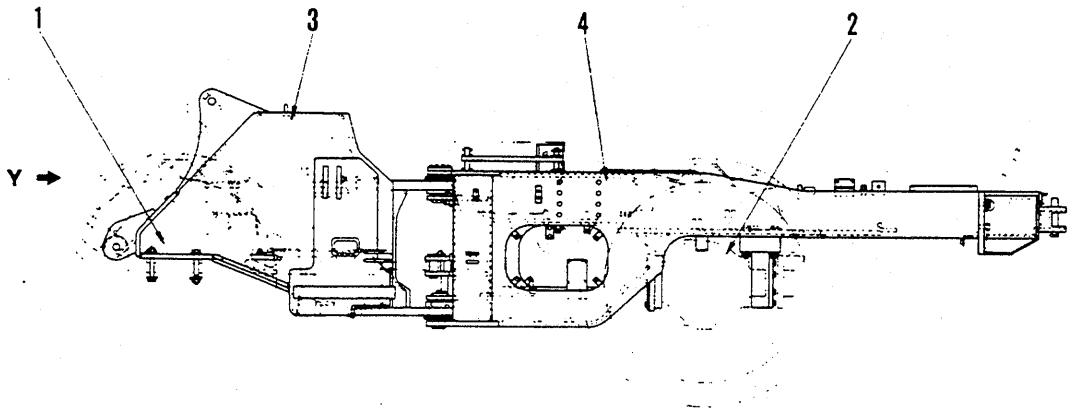
41K01

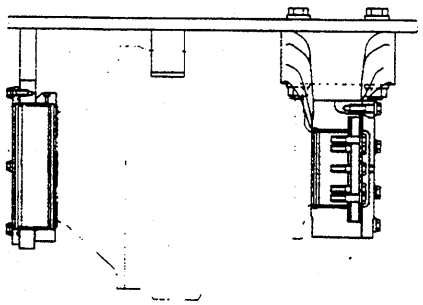
41KF01007

1. Axle shaft
2. Planetary gear (Teeth 24)
3. Ring gear (Teeth 67)
4. Planetary carrier
5. Sun gear (Teeth 17)
6. Wheel

AXLE MOUNT



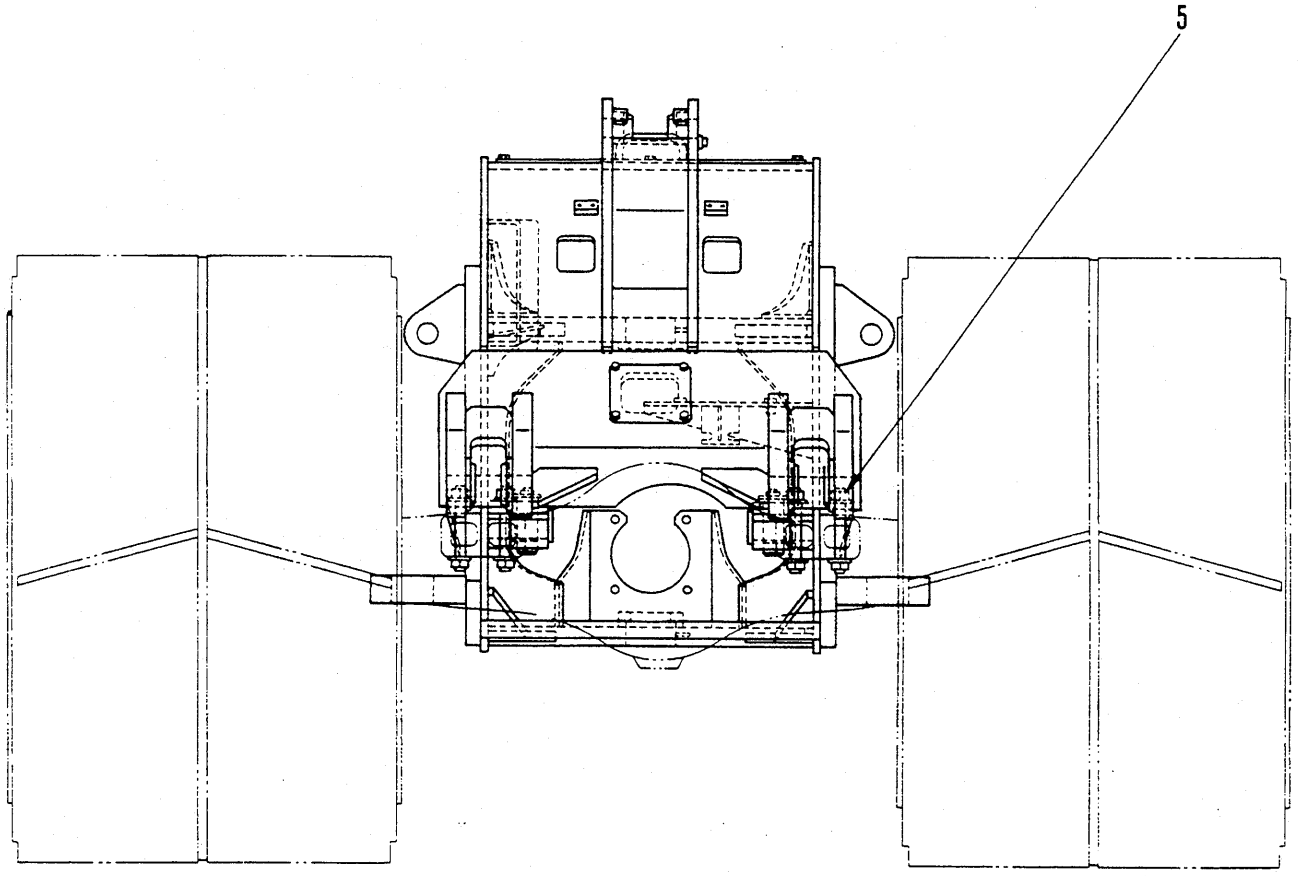




Section A-A

41KF01008

41K01



41K01

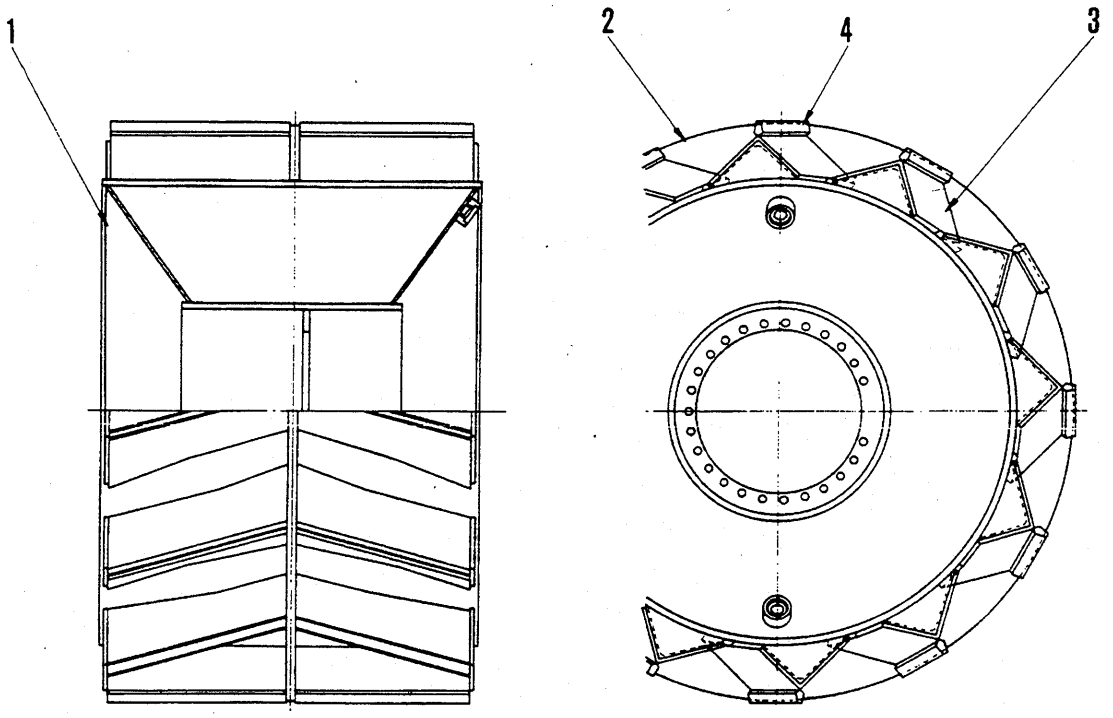
View Y

41KF01009

1. Front axle
2. Rear axle
3. Front frame
4. Rear frame
5. Tension bolt

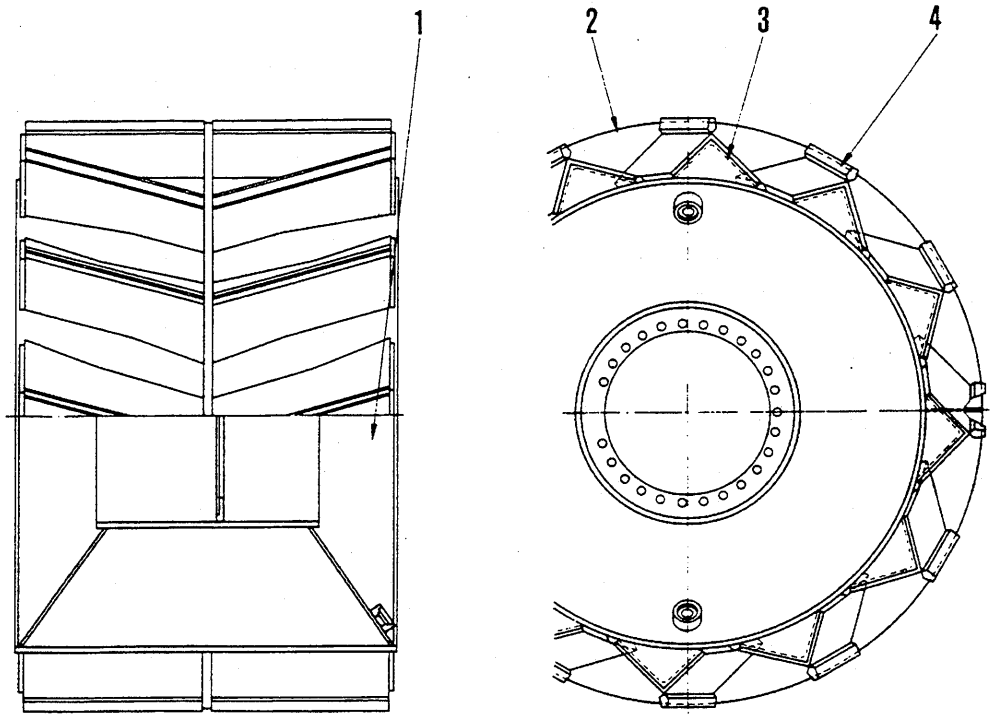
WHEELS

(Rear right, front left)



41KF01010

(Front right, rear left)



41KF01011

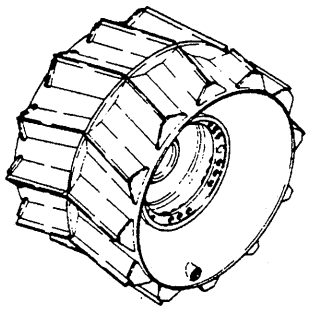
41K01

1. Drum
2. Center ring
3. Triangular foot
4. Grouser

41K01

Outline

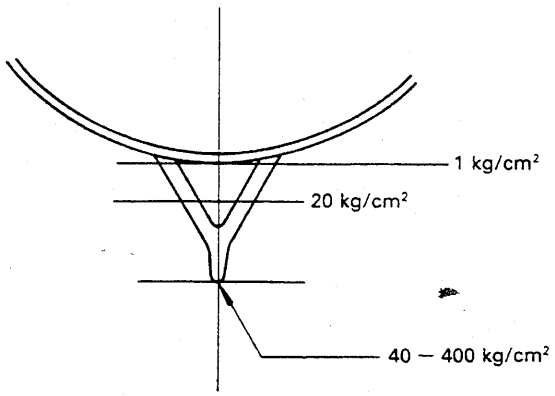
- The wheels are fixed to the final drive, and turn under the drive power they receive when one of the triangular foot portions contacts the ground and rotates.



256076

Function

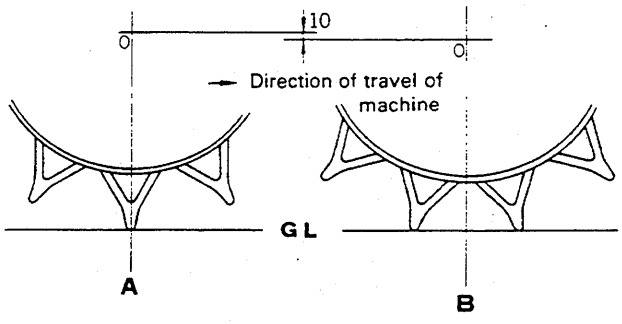
- To increase the crushing effect and compacting effect, the ground contact area is much smaller than that of a bulldozer. The ground pressure is 40 kg/cm^2 when the tips of the feet are uniformly in contact with the ground.
  When the wheels mount on top of the object to be crushed, the ground contact area is reduced to approximately 1/10, so the ground pressure becomes 400 kg/cm^2.



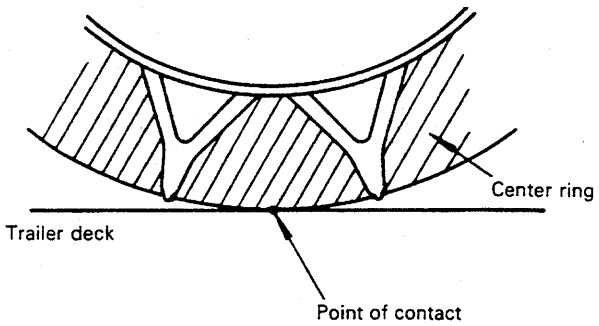
256077

- When traveling with triangular feet, as the condition changes from position **A** to the position **B**, wheel center O goes down 10 mm. This generates vibration, so a center ring is inserted to prevent this.

- To maintain safety when loading on a trailer, the center ring is 5 mm narrower than the grouser height, so there is a slight sacrifice of vibration.



256072



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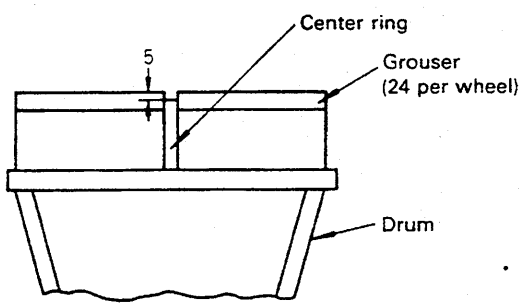

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