



Technical Manual

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Operation Manual



Hydraulic Filtration		Canopy	
Suction	In line, strainer	Type	Adjustable protective device
Bucket system	Return 25 micron replaceable with bypass		MDG1 and MDG17
Steer/brake system	Pressure 10 micron replaceable with bypass	Pneumatic System	
Alternator system	Pressure 5 micron replaceable no bypass	Compressor type	Piston engine gear driven
Optional return PTO	In line, 25 micron	Air flow	0.340 m ³ /min @ 1500 rpm
		Governed pressure	120 psi
		Relief pressure	130 psi
		Air receiver volume	80 litres
Service Brake Hydraulic System		Electrical System	
Type	Reverse modulated, pressure reducing	Type	Approved flameproof
Control valve	Open centre	Voltage	12 V
Actuation	Foot pedal	Polarity	Floating
System operating pressure	2500 psi		
Brake release pressure	1450 psi		
Brake maximum release pressure	1750 psi		
Steering		Lights	
Type	Centre articulated, hydraulic	Number/location	2 front, 2 rear
		Type	High performance approved flameproof
Service Brake		Alternator	
Type	Totally enclosed, liquid-cooled Posi-Stop	Drive	Hydraulic
Make/model	Dana 16150	Type	Customer preference approved flameproof
Application	Spring applied hydraulic release		
Location	Each wheel end	Vehicle Speeds	
		1 st gear	4.2 kph
		2 nd gear	8.5 kph
		3 rd gear	14.4 kph
		4 th gear	23.8 kph
Park Brake		Service Capacities	
Type	Totally enclosed, liquid cooled Posi-Stop	Hydraulic tank	250 litre
Make/model	Dana 16150	Fuel tank	200 litre
Application	Spring applied hydraulic release	Transmission/converter oil	40 litre
Location	Each wheel end	Engine crankcase oil	22 litre
		Engine cooling system water	72 litre
		Axle oil (each)	35 litre
Articulation		Maximum Tractive Effort	
Bearing type and size	Pin and spherical bearing (top), bush (bottom) fully sealed	1 st gear	22545 kg
Bush material	Hardened steel	2 nd gear	10852 kg
Pin material	Hardened steel	3 rd gear	6264 kg
Degrees of turn either side	43°	4 th gear	3627 kg
Oscillation		Grade Ability	
Type	Rear bolster	Front to rear	1:4
Bush material	Hardened steel	Side to side (empty)	1:4
Pin material	Hardened steel	Side to side (laden bucket load fully raised)	1:8
Degrees up and down from horizon	7.5°		
Seating (Operator)			
Type	Cross-seated		
Suspension	Adjustable spring/shock absorption		



WARNING

Overloading equipment could cause personal injury, death or equipment damage. Due to configuration or options these weights can vary up to 20%. Caterpillar recommends that relevant standards and safety procedures should always be used when operating this machine. Removal of protective canopies, doors, safety devices, interlocks and structures etc., could cause serious injury or death. Replacement with correctly torqued fasteners is mandatory.



CONTROL AND FUNCTIONS

COMPARTMENT DOOR

The compartment door must be closed and locked after entering the compartment before the park brake button can be released and the declutch valve be deactivated.



Never use the door to apply the park brake. Always manually apply by pressing the park brake button and ensure the brake head pressure gauge reads zero. The steering pressure will automatically bleed down, never assume the steering pressure has bled down unless the steering pressure gauge reads zero.



When the door is open the machine cannot be operated, as the park brake will be on and the transmission will be declutched. There is a roller cam valve in the door lock that needs to be activated to release the park brake. Also the brake system pressure is dumped with the door open. The engine will run with the door open.



COMPARTMENT DOOR



DOOR INTERLOCK VALVE



DOOR ASSEMBLY

EMERGENCY FUEL SHUT OFF VALVE

This valve is located after the fuel filter/water separator. Closing this valve will stop the flow of fuel to the engine.

This provides a second means of shutting down the engine should the on/off toggle switch fail.



EMERGENCY FUEL SHUT OFF VALVE

AIR CLEANER SERVICE INDICATOR

The air cleaner service indicator is located at the air cleaner and indicates the condition of the air cleaner element. When the service indicator is in the *red* zone, the air cleaner elements should be removed and serviced.



ENGINE AND HEAT EXCHANGER COOLANT ISOLATION

To isolate the engine and heat exchanger cooling system perform the following procedure:

1. Ensure the area is clear of any obstructions and area is fit for carrying out safe operation and maintenance.
2. Lower the lift arms or any attachment, shutdown the engine, fit a danger tag to the on/off toggle switch, connect the articulation lock and chock the wheels.
2. Isolate the pneumatic circuit.
3. Locate the header tank relief cap located at the rear of the machine on the driver's side.
4. Remove coolant circuit pressure (105 kPa) by slowly lifting up the *red* relief lever on the relief cap and hold up till pressure is released.
5. Slowly remove relief cap with relief lever held in the up position.



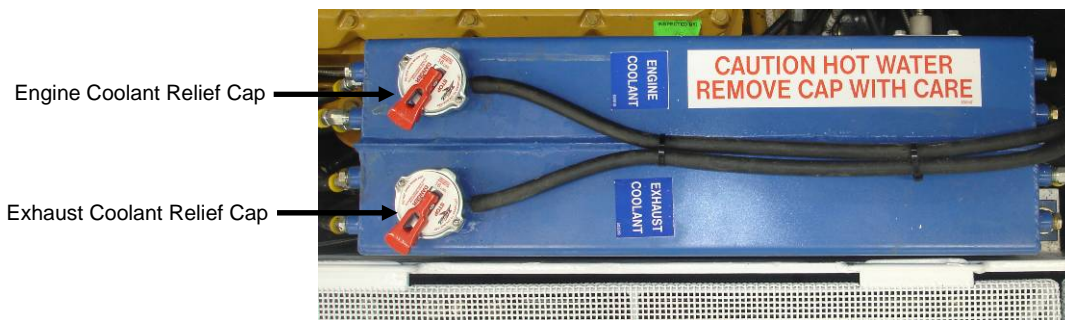
WARNING

The coolant fluid will be under pressure and hot (up to 100°C). Always relieve pressure by lifting the relief lever on relief cap before removal. Wear personal protective equipment such as safety glasses, long sleeve shirt and gloves to avoid scalds and burns from hot coolant.



NOTICE

This machine is fitted with two cooling circuits totally separate of each other, except for the expansion tank located on the driver's side wheel arch.



COOLANT HEADER TANKS

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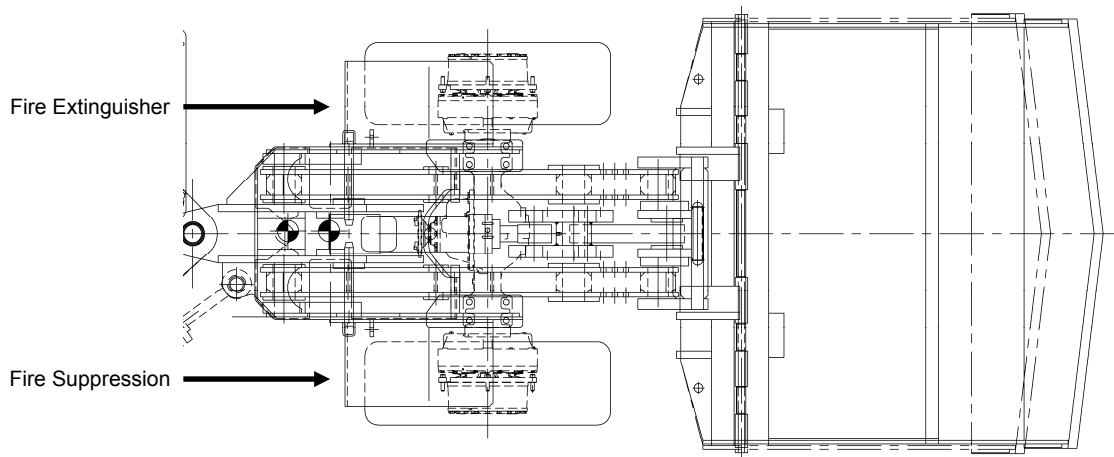


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Check the fire extinguisher:

1. Located on front driver's side mudguard.
2. Check inspection date.
3. Check contents indicator is reading in the *green* area.
4. If fire suppression system fitted check actuation points.



FIRE EXTINGUISHER



FIRE SUPPRESSION SYSTEM



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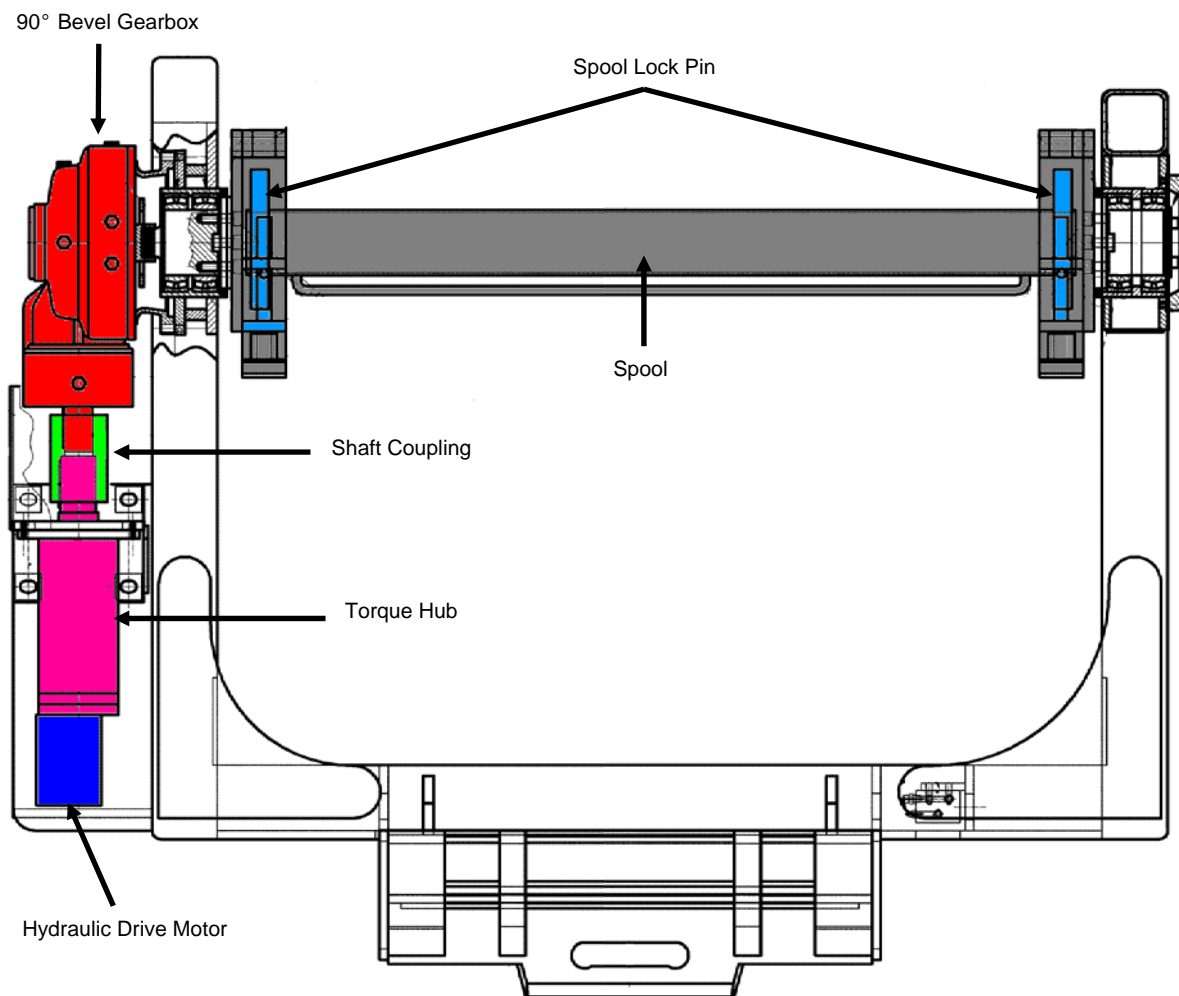
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