

"ST" Series Bearcat, Cougar, Panther

Operators Manual

37-059R2

Reprinted

CASE III



This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about your safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death.

SB001

IF THIS MACHINE IS USED BY AN EMPLOYEE, IS LOANED, OR IS RENTED, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE TWO INSTRUCTIONS BELOW.

BEFORE THE OPERATOR STARTS THE ENGINE:

1. GIVE INSTRUCTIONS TO THE OPERATOR ON SAFE AND CORRECT USE OF THE MACHINE.
2. MAKE SURE THE OPERATOR READS AND UNDERSTANDS THE OPERATOR'S MANUAL FOR THIS MACHINE.



IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH.

BEFORE STARTING THE ENGINE, DO THE FOLLOWING:

1. READ THE OPERATOR'S MANUAL.
2. READ ALL SAFETY DECALS ON THE MACHINE.
3. CLEAR THE AREA OF OTHER PERSONS.

LEARN AND PRACTICE SAFE USE OF MACHINE CONTROLS IN A SAFE, CLEAR AREA BEFORE YOU OPERATE THIS MACHINE ON A JOB SITE.

It is your responsibility to observe pertinent laws and regulations and to follow manufacturer's instructions on machine operation and maintenance.

See your Authorized Case dealer for additional operator's manuals, parts catalogs, and service manuals.

SUPPLEMENT TO

"ST" SERIES OPERATORS MANUAL

ALL "ST" BEARCAT, COUGAR, PANTHER

Effective with S/N 2001 & Up

The information contained in this bulletin will apply to all subject model tractors beginning with S/N 2001 and up. This is because of design changes that have occurred in the transfer case, brakes, center hinge and drivelines. All other information will remain the same.

Specifications

Brakes: (Fig. 1)

Type: Single Disc, Dual Caliper - Hydraulically Activated, Self Adjusting

Location: Transfer Case front lower shaft

Park Brake: Foot operated, cable actuated

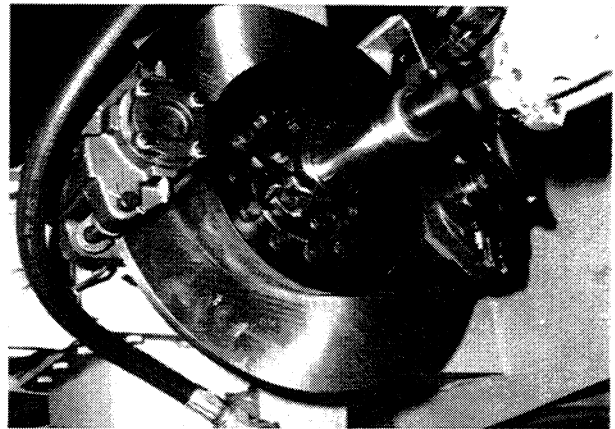


Figure 1:

Transfer Case:

Model: E, 2-Speed

Type: Helical gearing, with sliding shifter clutch (cable actuated). Tapered roller bearings on all shafts.

Lubrication: Integral oil reservoir, pressure lubricated with filtered and air-cooled oil pumped from reservoir

Oil Capacity: Transfer Case only 21 qts (19.8 L). Total capacity 37 qts (35 L) includes transmission

Filter: Spin-On, Steiger P/N 18-502

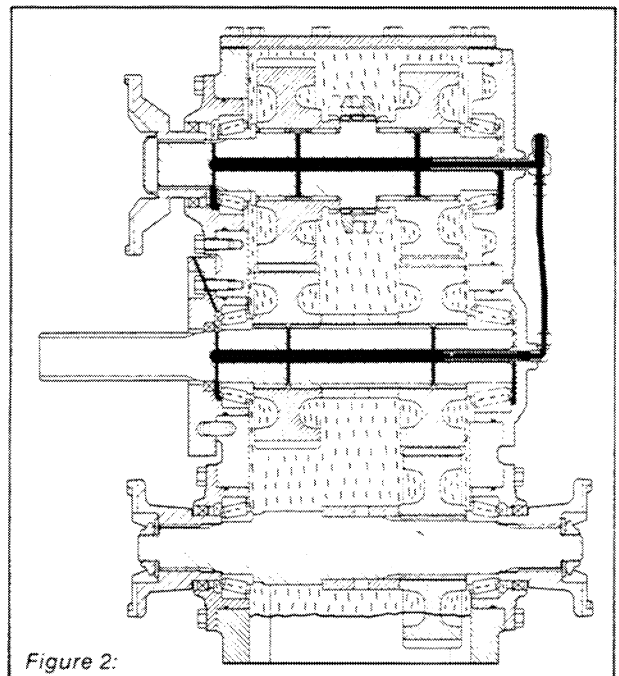


Figure 2:

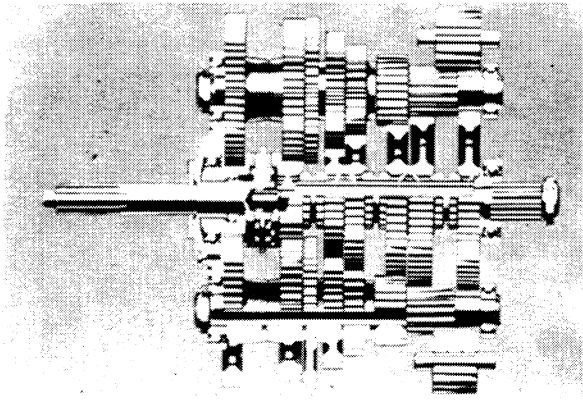


Figure 3:

Transmission:

Model: 1010

Type: Constant Mesh, Spur Gear

Speeds: 10 forward, 2 reverse

Lubrication: Pressure circulated with filtered and air cooled oil. Oil level maintained automatically with oil pumped from transfer case reservoir.

Transmission/Transfer Case

Lubrication Specifications

Oil Type: Steiger Hyd/Transmission fluid or other quality brand Hyd/Transmission fluid

Oil Capacity: Transmission only 16 qts (15 L) Total 37 qts (35 L) with transfer case

Filter: Spin-On, Steiger P/N 18-502

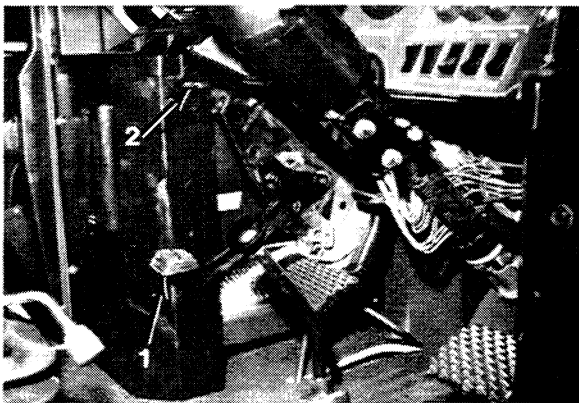


Figure 4:

1- Park Brake Pedal 2- Park Brake Release Lever

Park Brake Operation (Fig. 4)

To apply the park brake push down on pedal, 1-Fig. 4; with the foot.

To release the park brake, pull out on release lever, 2-Fig. 4.



CAUTION: Apply the park brake whenever the tractor is stopped.

Service & Maintenance

Transmission & Transfer Case (Fig. 5)

General Information

The transmission and transfer case filter(s) require changing every 500 service hours, and oil change every 1000 service hours.

The transmission and transfer case share the same oil supply from the integral reservoir on the bottom of the transfer case. Oil is pumped through the oil cooler, then distributed to the transmission and transfer case. After the transmission is filled, the oil level is automatically maintained and any excess oil is returned by gravity to the transfer case reservoir. Whenever draining the system, follow the oil changing and refilling instructions.

Oil Level Check And Fill (Fig. 6)

The tractor must be parked on a level surface and the oil level checked daily.



CAUTION: Shutdown engine and apply park brake before checking oil level.

The oil level should be at or near the "Full" mark on the dipstick. **Do not overfill.**

Changing Oil Filter (Fig. 7)

Unscrew the spin-on oil filter from the base, and wipe base clean. Be sure old seal did not remain on filter base. Lubricate new filter gasket with clean oil. Hand tighten filter until gasket contacts base and hand tighten an additional 1/2 to 3/4 turn more. Check oil level and start tractor. Run engine for 5-10 minutes, shut down engine and check for leaks.

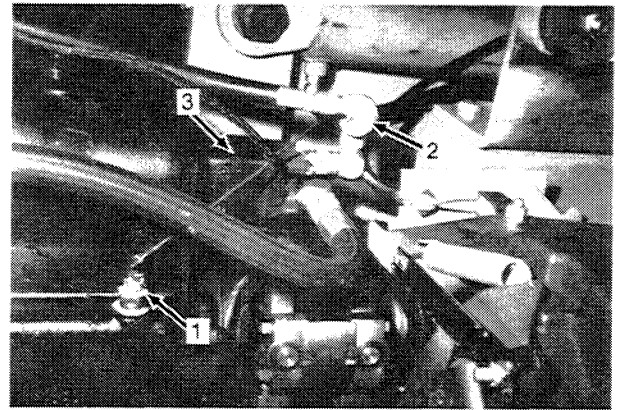


Figure 5:

- 1- Oil Temperature Switch
- 2- Pressure Switch
- 3- Trans/Transfer Case Lube Pump

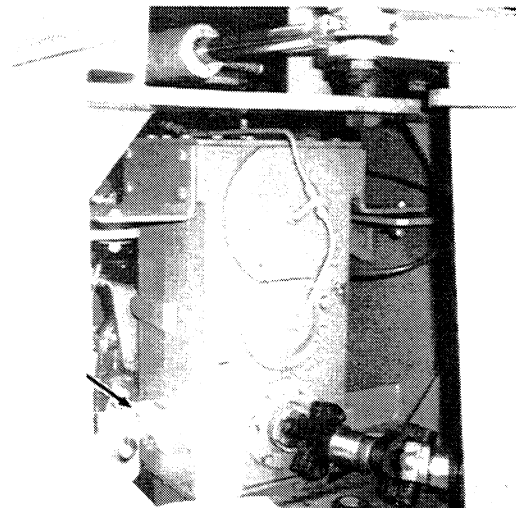


Figure 6:

Transmission/Transfer Case Oil Level Check

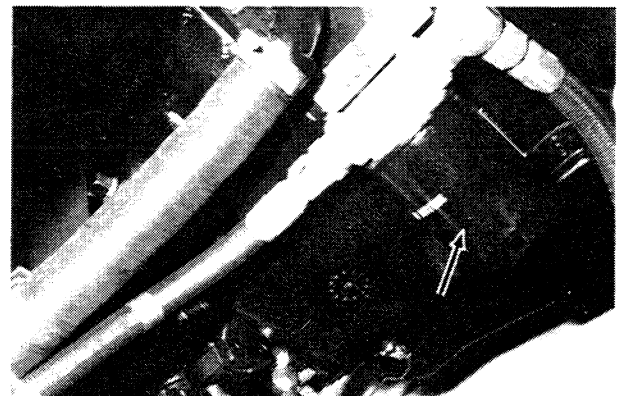


Figure 7:

Filter Location

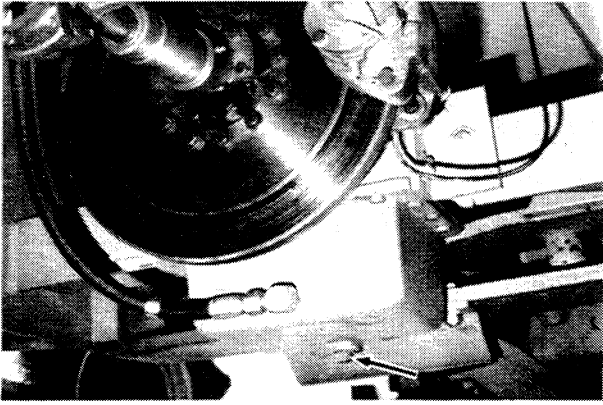


Figure 8: Transfer Case Drain Plug



Figure 9: Transmission Drain Plug

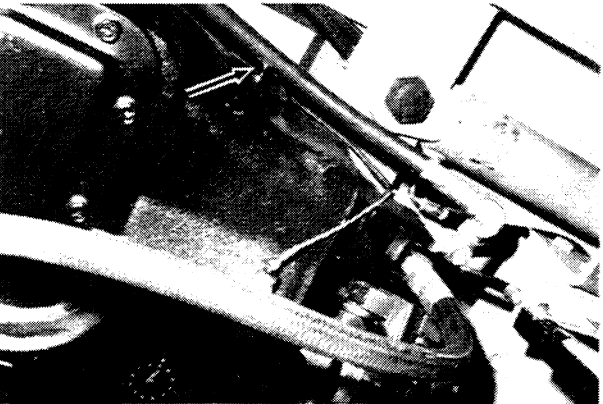


Figure 10: Transmission Fill Plug

Transmission/Transfer Case Drain (Fig. 8)

When draining transmission and transfer case, be sure engine is stopped and oil is warm.

Remove each respective drain plug and allow ample time for complete oil drain. Inspect and clean the magnetic plugs before installation.



CAUTION: Use caution when draining oil or changing filters. Hot oil or components can cause burns if they contact skin.

Refilling Transmission/Transfer Case System (Fig. 10)

1. Be sure all drain plugs are installed tightly.
2. Remove transmission "Fill" plug. Fill transmission to lower level of hole.

IMPORTANT: *It is possible to fill the transfer case at the same time because oil will gravity flow to the transfer case. Because of this the oil level in the transfer case will need to be checked frequently during the fill procedure to avoid over filling the system.*

3. Re-install and tighten transmission "Fill" plug.
4. Apply "Park" brake, start engine and allow it to idle for 5-10 minutes. Shut down the engine, re-check the transfer case oil level. Re-fill as necessary to correct oil level. **Do not overfill.**

IMPORTANT: *The transmission "Hi-Lo" range selector must always be engaged when allowing the engine to idle or severe transmission damage may result.*

Driveline Lubrication:

Lubricate all driveline u-joints every 10 hours. Lubricate driveline carrier bearing in the center hinge every 10 hours and driveline slip yokes every 100 hours. Use a Lithium based N.G.L.I. No. 2 high temperature grease.

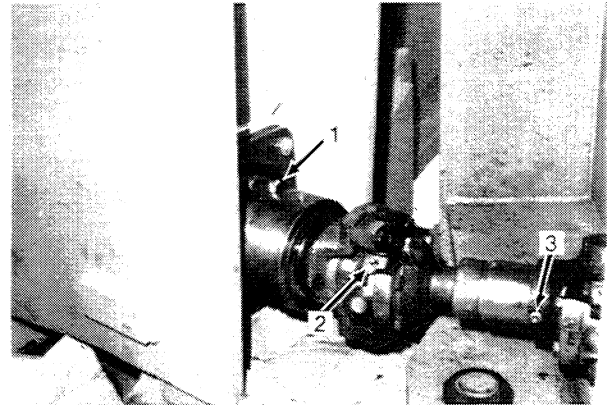


Figure 11:

- 1- Carrier Bearing Grease Fitting
- 2- U-Joint Grease Fitting
- 3- Slip Yoke Grease Fitting

Frame Articulation Retainer

Whenever transporting of the tractor on another vehicle is required the frame articulation retainers **MUST** be installed.



WARNING: Attach Locking Bar between frames before service work is done near center of machine. Attach Locking Bar between frames before lifting the machine or transporting on another vehicle. (See Fig. A) Before operating machine be sure Locking Bar is secured in storage position. (See Fig. B)

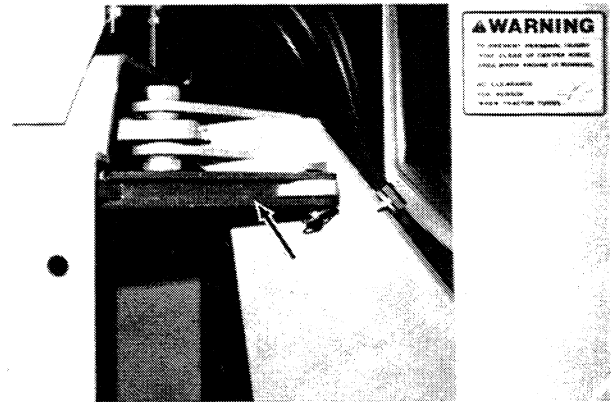


Figure A: Lock Position

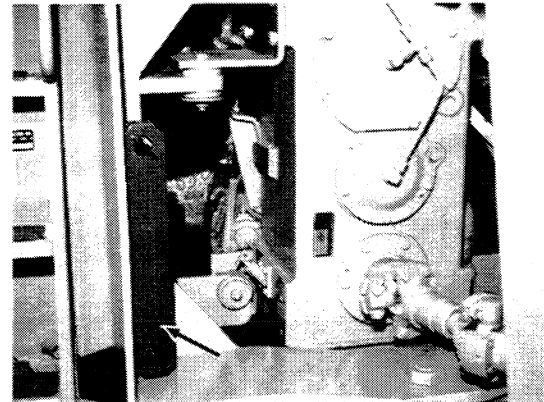


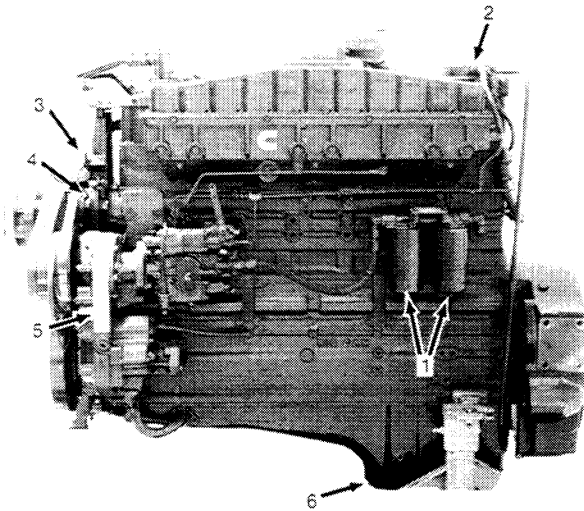
Figure B: Storage Position

SUPPLEMENT TO

"ST" SERIES OPERATORS MANUAL

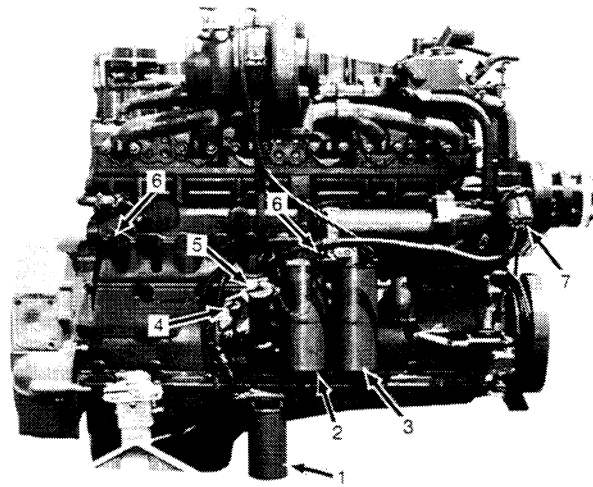
ST 310 Panther III Engine Specifications

Serial No. 107-02712 & Up



Engine Left Side

- 1-Fuel Filters
- 2-Crankcase Vent
- 3-Fan Belt Adj.
- 4-Water Pump
- 5-Data Plate
- 6-Oil Drain



Engine Right Side

- 1-Water Filter
- 2-By-Pass Oil Filter
- 3-Full Flow Oil Filter
- 4-Dipstick
- 5-Oil Fill Port
- 6-Coolant Drain
- 7-Water Filter Valve

Cummins NTA 855 A310 "Big Cam III"

General Specifications

- Model:** NTA 855 A310 Big Cam III turbo-charged and after cooled in line 6 cylinder
- Bore & Stroke:** 5.5" x 6.0" (140 mm x 152 mm)
- Displacement:** 855 cu. in. (14 liters)
- Compression Ratio:** 14.5:1
- Nominal Torque Rise:** 30%
- Rated RPM:** 2100 rpm
- Engine High Idle:** 2260 rpm (approx.)
- Low Idle:** 830 rpm (approx.)
- Oil Pressure:** 45-55 psi (310-380 Kpa) at rated rpm
15 psi (34-138 Kpa) at minimum idle

NOTE: Engine oil pressure at 225°F (107°C) oil temperature. Factory fill oil is 15W-40.

Lubrication Specifications: Oil type heavy duty API class CD or CC/CD

Oil Viscosity:

SAE Viscosity Grade*	Ambient Temperature*
Recommended	
10W - 30	-13°F to 95°F (-25°C to 35°C)
15W - 40	14°F and above (-10°C & above)
20W - 40	32°F and above (0°C & above)

*SAE - 5W mineral oils should not be used.

- Oil Capacity:** 8.8 gal. (33.3 liters) including filters
- Oil Filters:** Spin-on full flow on engine and spin-on by-pass mounted on engine
- Cooling System Capacity:** 16.5 gal. (62.45 liters)

SUPPLEMENT TO

“ST” SERIES OPERATORS MANUAL

ATTENTION:

All tractors above the model and serial number range that follows ARE NOT equipped with the automatic engine shutdown feature that was available on earlier production models.

IMPORTANT: *Compare your tractor serial number to the following serial number list. If the serial number is above those listed it will NOT have the automatic engine shutdown feature.*

MODEL	SERIAL NO.
ST 220 Bearcat III	103-00229
ST 225 Bearcat III	109-00000
ST 250 Cougar III	104-00330
ST 251 Cougar III	106-00762
ST 270 Cougar III	105-00900
ST 280 Cougar III	110-00000
ST 280 Cougar III	111-00000
ST 310 Panther III	107-00923
ST 325 Panther III	123-00910

ALL reference pertaining to the earlier automatic engine shutdown system contained within this manual is to be disregarded ONLY on those models ABOVE the serial number range listed in this supplement. The following information shall apply on those models ABOVE the listed serial number range.

In the event of a system malfunction such as loss of engine oil pressure, excessive engine coolant temperature, there will be an intermittent tone alarm sound and the appropriate dash indicator light will illuminate. When this happens, the engine MUST be switched off manually. To avoid additional system damage, correct the cause before continued operation.

In addition to the above, the system will also emit a STEADY tone alarm in the event of high transmission oil temperature or if the park brake is applied. When this happens, the appropriate dash indicator light will also illuminate, but again the engine WILL NOT shut down automatically. All system information contained within this manual is correct EXCEPT for the automatic engine shutdown feature used on prior model tractors.

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