

Accent on Loader/Backhoes

September 1989

The 580K, with August production, now offers:

- A new transaxle
- More horsepower
- More hydraulic flow to the backhoe

580K

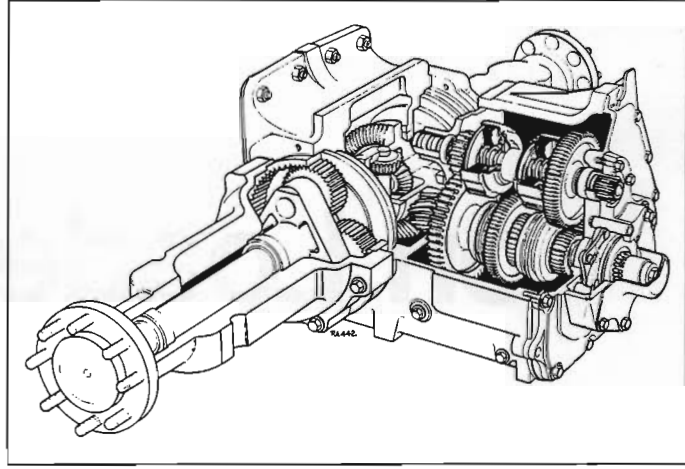


Case

580K

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Introduction

When the most popular loader/backhoe in the industry is improved, people take notice. The 580K with its new transaxle and latest updates is going to cause excitement among dealers and their customers, because these aren't cosmetic changes we're talking about. These are engineered improvements that make the loading, roading and backhoe performance unequalled in the marketplace.

Briefly, here are some of the things we've done:

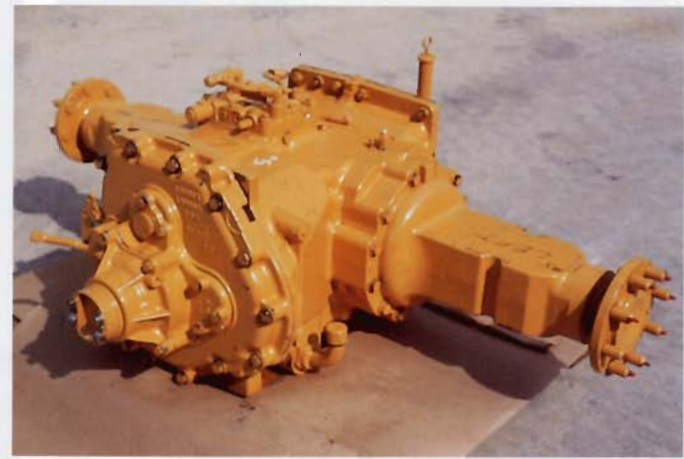
- Increased the horsepower to 69 net (51 kW)
- Boosted the travel speed to 25 mph (40km/h)
- Added new four speed synchromesh transmission
- Installed inboard wet-disc, self-adjusting brakes
- Improved drive-line efficiency by 30 percent
- Made reverse speeds 20 percent faster
- Increased the hydraulic flow to the backhoe from 33 gpm to 36 gpm (+9%)

Increased Horsepower

69 Net Horsepower

Effective with the new transaxle, the 580K is now rated at 69 net engine horsepower (51 kW) at 2200 rpm to increase both roading and loader performance.

New Transaxle



Synchronizers

A fully synchronized transmission in all four gears means no more multiple, time-consuming stops to shift. On-the-go shifting increases an operator's productivity because he can match his ground speed/drawbar requirements to the job at hand without stopping to shift.

Torque Converter

A new, stiffer torque converter offers better roading performance while still maintaining a well matched loader-hydraulic and torque converter stall combination.

Power Shuttle

A new power shuttle provides increased modulation for smoother shifts between forward and reverse. This reduces operator fatigue, resulting in more productive hours on the job. The power shuttle is now located in the same housing as the transaxle.

Planetary System

The 580K is equipped with inboard planetary gear reductions, replacing the "bull gear" type final drive reduction previously used. Planetary design reduction provides a more evenly distributed gear-tooth loading and offers maximum reduction in a compact area.

Differential Lock

The differential lock is actuated by a pedal that is now closer to the accelerator. When working in wet, sticky materials, an operator can easily engage the lock when both wheels are moving at the same speed or stopped. This provides increased tractive effort and maximizes the horsepower to the wheels.

Brakes

Working Gears

The speed for first gear is 3.7 mph (6.0 km/h) and second is 6.2 mph (9.9 km/h) with 19.5L rear tires. These speeds, when combined with the synchronizer feature, offer superior loader performance.

Faster Reverse Speeds

Reverse is now 20 percent faster, resulting in faster overall loader cycle times while backfilling, stockpiling or performing general load-and-carry type applications, decreasing the non-productive cycle time.

Increased Road Speed

With the new transaxle, the top speed of fourth gear is 24.7 mph (39.9 km/h). Rental yards, utilities and independent owner/operators can take advantage of this faster mobility when moving from one job site to another. Cost is reduced when no tractor-trailer or additional crew is necessary to move the 580K.

Additionally, third gear tops out at 14.1 mph (22.7 km/h) for climbing hills and, with the synchronizers, an operator traveling off-site can easily drop down to second or first gear when going up a steep grade. In short, the off-site maneuverability of the unit matches its on-site performance capabilities.

Travel speeds in each of the four gears (at a rated engine speed of 2200 rpm and 19.5L x 24 rear tires) are:

Working Gears

First - 3.7 mph (6.0 km/h)
Second - 6.2 mph (9.9 km/h)

Road Gears

Third - 14.1 mph (22.7 km/h)
Fourth - 24.7 mph (39.9 km/h)

T-Bar Shift Lever

The T-bar shift lever with clutch disconnect is located on the right-hand console, not on the floor, and moves in an "H" pattern. This makes the lever easy to reach and operate. The clutch disconnect on the T-bar lever is easily actuated by the operator's thumb.



In-board Wet-disc Brakes

A 12-inch (305 mm), single-disc brake provides more torque capacity for regular or emergency stops.

Less Pedal Effort

Less pedal effort is required to stop because of the improved brake design. It's easier to make brake turns, giving the operator faster maneuverability and also reducing operator fatigue. The end result is increased production.

Service Brakes

The service brakes are oil-cooled using 3 gpm (11.4 L/min) per brake from the transmission's independent lubrication system. Cooled oil is returned over the brakes to increase brake life and reduce heat when working on hills or using the brakes for steering.

Brake Adjustment

Brake retractors provide continuous self-adjustment of the brakes, maintaining proper brake disc clearance. The brake will operate with less wear and less down time because no operator adjustment is needed.

These retractors, along with baffles and lighter oil, contribute to lower parasitic losses and a 30 percent increase in drive-train efficiency.

Parking Brake

The parking brake is a multi-plate, wet disc brake that can be easily serviced in the tractor by removing the housing. It is an independent system that meets SAE braking requirements.

Filter

All transaxle fluids for the brakes, as well as that for the power shuttle, transaxle and torque converter, pass through a 7-micron filter. This filter is the same as the filter used for the 580K hydraulic system, so only one filter needs to be stocked. It is designed to trap extremely fine particles, extending the life of these components and lessening maintenance time.

Service

- The transaxle should be serviced with Hy-Tran Plus. DO NOT USE TCH.
- The brake master cylinder reservoir can be serviced with either Hy-Tran Plus or TCH.

Tires

There are three rear tire sizes available for the 580K with the new transaxle:

- 19.5L x 24 (available in 82" (2.08 m) or 90" (2.29 m) width)
- 17.5L x 24
- 16.9 x 24

Tire Selection Guide

Backhoe Units

- All three rear tires listed above can be used, but note: The 90-inch- (2.29 m) wide, 19.5L x 24's extend beyond an 82-inch (2.08 m) loader bucket. Use 82-inch (2.08 m) wide 19.5L x 24's or go to a 90-inch (2.29 m) short lip bucket.

3-Point Hitch or Rear Counterweight Units

- All three rear tires listed above will work except the 19.5L x 24, 82-inch (2.08 m) overall width. This tire will not clear the frame on a 3-point hitch chassis or with rear counterweight. Use the 90-inch (2.29 m) wide 19.5L's on this chassis. Most box scrapers are less than 90 inches wide, so 17.5L's or 16.9's, 82 inches (2.08 m) wide, may work best.

2WD Units

- All rear tires shown above will work, except as noted above, but 11L x 16 front tires must be used.

4WD Units

- All rear tires shown above will work, except as noted above, but 12 x 16.5 front tires must be used.

Tire Tips

- Compared to 17.5L and 16.9, the 19.5L rear tires provide:
 - faster ground speeds
 - more tire on the ground
 - more rugged appearance
 - least amount of overspeed of the front tire in 4WD
 - more below ground dig depth of loader bucket
 - slightly less rim pull at stall
 - inadequate clearance for tire chains
- The new transaxle is mounted to provide about the same machine height with the 19.5L rear tires as the previous units had with the 17.5L rear tires. The static loaded radius of 17.5L's is about 1.6 inches (41 mm) less than 19.5L's.

- All of the rear tires are listed below with the necessary dimensions to help you with tire selections.

| | Overall Diameter | Width of Tire | Static Loaded Radius | Overall Width on Machine |
|--------------------------------|-------------------|-------------------|----------------------|--------------------------------|
| 16.9 x 24, 10PR (R4) | 50" (1.27 m) | 17.0" (432 mm) | 22.7" (577 mm) | 82" (2.08 m) |
| 17.5L x 24, 10PR (R4) | 48.3" (1.23 m) | 17.4" (442 mm) | 21.8" (554 mm) | 82" (2.08 m) |
| 19.5L x 24, 8 or 10 PR (R4) | 51.2" (1.30 m) | 19.5" (495 mm) | 23.4" (549 mm) | 82" or 90" (2.08 or 2.29 m) |

The above dimensions vary within manufacturers' tolerances and will vary somewhat among brands. The data listed is from Goodyear.

Wheel Flanges

The rear wheel flange will now have studs replacing lug bolts and nuts, making tire replacement an easier task.



More Hydraulic Flow to Backhoe

The small section of the 580K tandem hydraulic pump has been increased from 7 gpm to 10 gpm. This increases the total flow to the backhoe from 33 gpm to 36 gpm and improves the speed of the backhoe during multi-control function operations. The result is improved overall backhoe cycle time.

Additional Features with the New Transaxle

Helical Gears

Helical gears are used in the new transaxle because they are stronger, more durable and much quieter, especially at higher speeds. This results in longer gear life and helps reduce noise on the job site.

4WD Drive Housing

The 4WD housing on this new transaxle increases the driveline clearance, providing additional protection in rough terrains. Also, 4WD engagement is easier, with less lever effort and a positive detent.

Live Power Take Off Option

Power take off to drive attachments is available for the loader version of the 580K. Because this is an independent system producing 65 horsepower (48.5 kW) at 540 rpm, it will drive larger attachments than previously. The system will drive augers, mowers and similar attachments for a variety of jobs. Power takeoff expands the versatility and productivity of the 580K.

Other Changes Effective with the New Transaxle

- 82" (2.08 m) long-lip loader buckets will now have bolt-on cutting edge capabilities.
- Backhoe bucket links are available as a factory or field installed option in lieu of the quick coupler.
- An improved air conditioner option is available for both factory and field installation.

Note: D103565 is the field kit for the units with the new transaxles and D102921 is for the previous model. The air conditioner on these units will not retrofit on the earlier models without modification.

- An electronic instrument control cluster is available as an option and features a security lock on the fuel system for theft prevention. This system monitors vital machine functions.
- There is a guard to protect the suction tube line on the left-hand side of the new transaxle. This guard would be a good investment in very rough terrain applications (refer to price book).

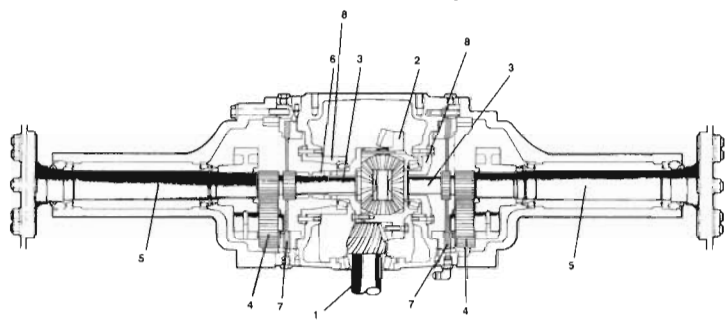
Other Changes Planned

- Boron cutting edges are scheduled for the 580K 18" (457 mm) and 24" (610 mm) H.D. buckets. Boron steel is easier to weld and has greater strength and wear resistance.
- The 580K loader control lever is being repositioned approximately 2 inches (51 mm) back and 1 inch (25 mm) lower.

Summary of Improvements

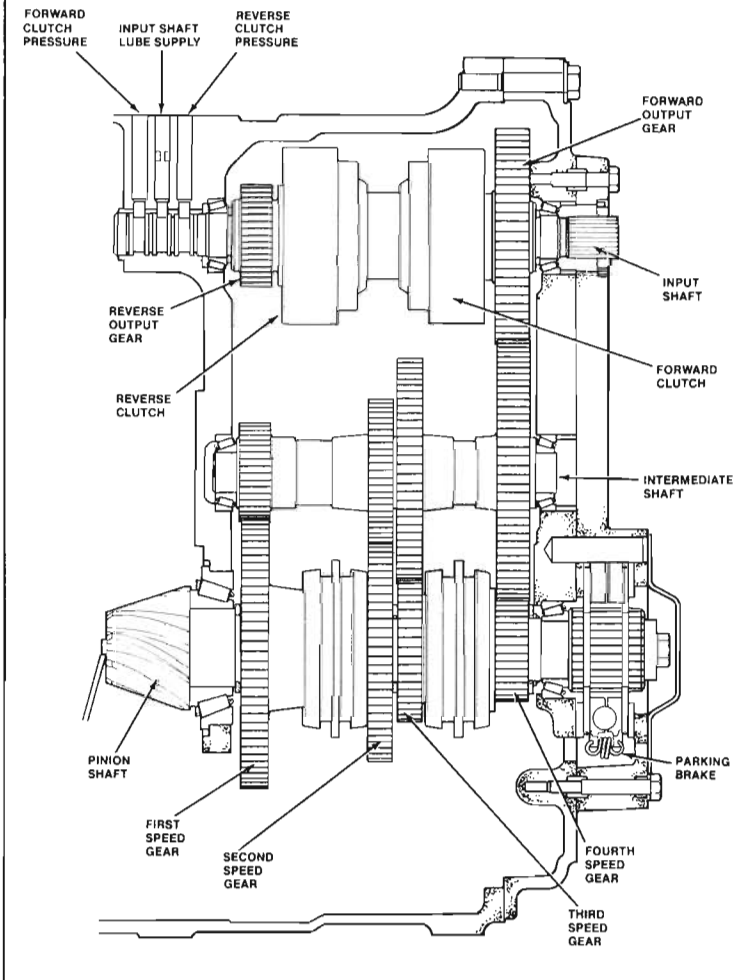
- Horsepower increased to 69 net (51.5 kW)
- More hydraulic flow to the backhoe - total flow is 36 gpm
- Synchronizers in all four gears
- Planetary gear reductions
- Helical gears
- Faster reverse gear
- Improved oil-cooled, wet-disc, self-adjusting service brakes
- Independent, multi-plate, wet-disc parking brake
- New torque converter match
- Differential lock pedal closer to accelerator
- T-bar shift lever moved to right-hand console
- Road speed increased to 25 mph (40 km/h)
- New 7-micron filter added to transaxle lubrication system
- Higher driveline clearance
- Optional 65 hp (48.5 kW) independent power takeoff
- Optional bolt-on cutting edges
- Optional improved air conditioner
- Optional electronic instrument cluster

Differential Assembly



1. Bevel Pinion Shaft
2. Differential Assembly
3. Sun Gear Shaft
4. Planetary Reduction Gears
5. Rear Axle Shaft
6. Differential Lock
7. Inboard Wet Brake
8. Differential Bearing Carrier

Transaxle General Description



Confidential — For internal use only.

Note: All Case specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

Important

J I Case Company reserves the right to change these specifications without notice and without incurring any obligation relating to such changes.

J I Case

A Tenneco Company

700 State Street, Racine, WI 53404 U.S.A.

