

## DRIVE SPROCKETS

### GENERAL INFORMATION

Each track is driven from the rear by a hardened cast steel sprocket receiving power through the final drive and clutch-brake mechanism.

The sprocket is bolted to the axle shaft.

The sprocket is of the hunting tooth design.

### MEASURING SPROCKET WEAR

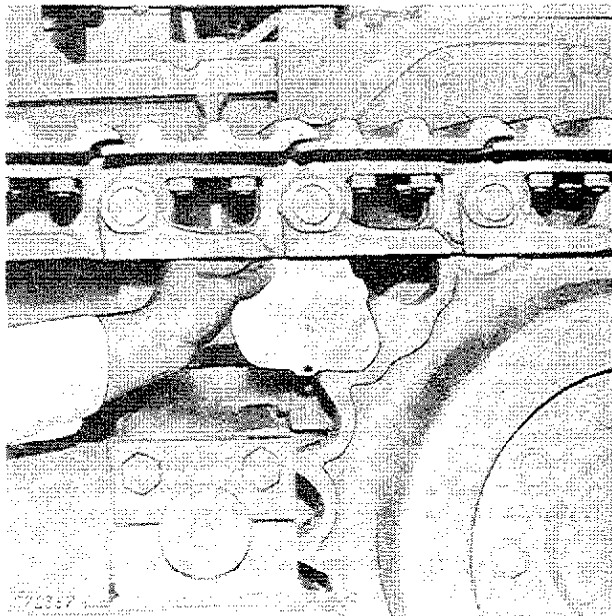


Fig. 7-Measuring Sprocket Wear

Use JDG-43 Sprocket Wear Gauge (part of D-05227ST Undercarriage Inspection Service Tool Kit) to measure sprocket wear.

Place the gauge on the sprocket as shown in Fig. 7, with the gauge against one sprocket tooth.

Measure the gap between the other side of the gauge and the sprocket tooth. Allowable wear is indicated on the gauge.

*NOTE: For additional information on measuring sprockets refer to UNDERCARRIAGE APPRAISAL MANUAL SP-326.*

*NOTE: It is recommended to use the above procedure for more accurate measurements when replacing the track components. A track wear gauge (JD266) is available, enabling the service technician to quickly check the condition of a track assembly.*

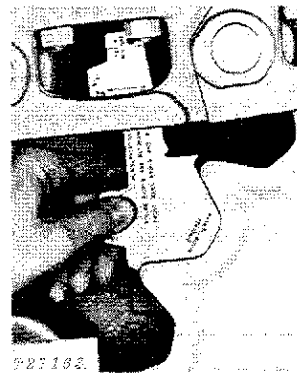


Fig. 8-Measuring Sprocket Wear

Use JD266 Track Wear Gauge to measure sprocket wear.

Place the gauge on the sprocket as shown in Fig. 8, with the gauge against one sprocket tooth.

Measure the gap between the other side of the gauge and the sprocket tooth. Allowable wear is indicated on the gauge.

## REMOVAL

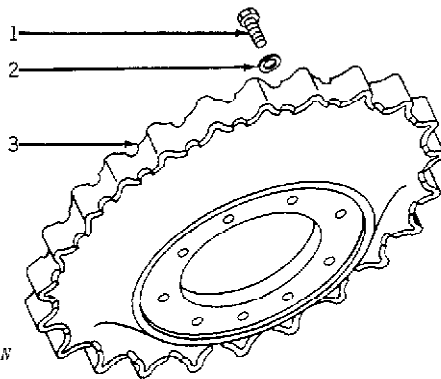
Raise one side of tractor by placing floor jack securely under front cross member. Start engine and shift transmission into first gear. Pull back on steering lever that controls track not raised off floor (this disengages steering clutch and applies brake to that side). Engage engine clutch, permitting raised track to rotate until master pin has moved around drive sprocket and is approximately 6 inches (152 mm) from floor.

**CAUTION:** Be sure that track to be rotated is clear of floor and that opposite track is locked in position so that tractor does not move.

*NOTE:* When crawler is equipped with a loader and bottom counterweight, the counterweight must be removed.

Release track tension, remove track master pin, page 1-0130-15 and move track assembly clear of drive sprocket.

Remove sprocket shield or sprocket weight from machine. See Group 1749 for removal of sprocket weight.



- 1—Cap Screw (9 used)
- 2—Special Washer (9 used)
- 3—Sprocket

Fig. 9-Regular Sprocket

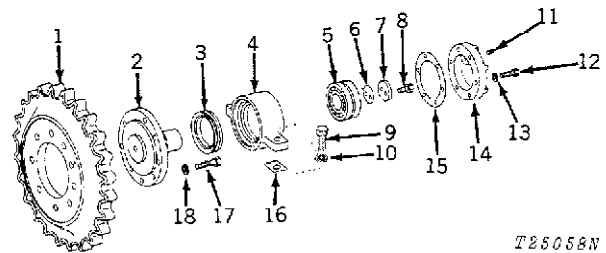
Remove cap screws (1, Fig. 9) and washers (2) and pull sprocket (3) from the axle shaft.

## REPAIR

The drive sprocket is not repairable. It must be replaced when excessively worn or damaged.

*NOTE:* If the unit is driven in one direction the majority of the time, most of the wear will occur on one side of the teeth. To extend the service life, the sprockets can be switched from one side of the machine to the other. This will cause the chain to wear on the opposite face of the tooth.

## Wide Tread Installation



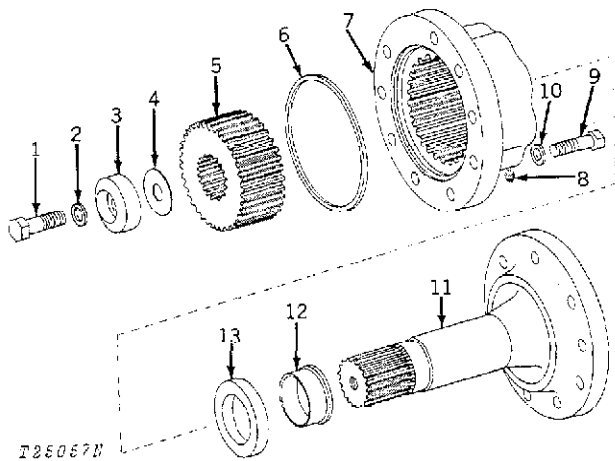
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- 1—Sprocket
- 2—Shaft
- 3—Oil Seal
- 4—Housing
- 5—Bearing
- 6—Shim
- 7—Retainer
- 8—Cap Screw (2 used)
- 9—Cap Screw (2 used)
- 10—Washer (2 used)
- 11—Pipe Plug
- 12—Cap Screw (6 used)
- 13—Lock Washer (6 used)
- 14—Cover
- 15—Gasket
- 16—Shim (as required)
- 17—Cap Screw (9 used)
- 18—Washer (9 used)

Fig. 10-Outer Sprocket Shaft and Cover

## Disassembly

Remove cover (14, Fig. 10) from housing (4). Remove retaining cap screws (8) and retainer (7). Press shaft (2) out of housing. Remove bearing (5) and oil seal (3) from housing. Check the condition of bearing and oil seal.



- |                 |                      |
|-----------------|----------------------|
| 1—Cap Screw     | 8—Pipe Plug          |
| 2—Lock Washer   | 9—Cap Screw (9 used) |
| 3—Gear Retainer | 10—Washer (9 used)   |
| 4—Shim          | 11—Sprocket Shaft    |
| 5—Coupling Gear | 12—Spacer            |
| 6—Packing       | 13—Seal              |
| 7—Housing       |                      |

Fig. 11—Inner Sprocket Shaft and Gear

Remove gear (5, Fig. 11) from housing (7) and sprocket shaft (11) by removing cap screw (1) and gear retainer (3). Press sprocket shaft out of housing while holding seal (13) and spacer (12) in housing. Press seal (13) out and check for wear.

### Assembly

Press seal (13, Fig. 11) into spacer (12) and then press seal into housing (7). With the large end of sprocket shaft (11) down, place housing on sprocket shaft and then place gear (5) on sprocket shaft and into housing as far as it will go. Now lay a flat piece of iron on the gear and press it and the housing onto the sprocket shaft until gear is flush with end of sprocket shaft. Fasten retainer and shim to end of shaft with cap screw (1).

**NOTE:** Do not let the housing assembly sit on the large end of sprocket shaft. This will tend to damage the seal (13, Fig. 11).

Pack the gear cavity area in housing (7) with multi-purpose lubricant. Put packing (6) in place on the flange axle of the final drive and attach inner sprocket housing assembly to the flange axle on the final drive.

**NOTE:** Remove pipe plug (8) from housing before attaching the flange axle so any excess grease or air can escape.

Press bearing (5, Fig. 10) into housing (4). With large end of shaft (2) down, place oil seal (3) on the shaft and press housing on the shaft. Attach shims (6) and retainer (7) on end of shaft with cap screws (8). Replace cover (14). Fill housing with 1-1/2 to 2 cups (355 to 474 mL) of the recommended oil. (See Section I, Group V).

After wide-track outboard bearings have been installed, refer to Group 9030 for alignment of track.

Add shims (16, Fig. 10) between track and housing (4) as required.

## INSTALLATION

The flanged axle shaft, sprocket weight (if used), and the drive sprocket mounting surfaces must be clean, free of grease, oil, paint and rust prior to installation.

See Group 1749 and install sprocket and sprocket weight (if used) on flanged axle shaft. Tighten cap screws as follows:

- D-grade - 170 lb-ft (230 N·m)
- F-grade - 240 lb-ft (325 N·m)

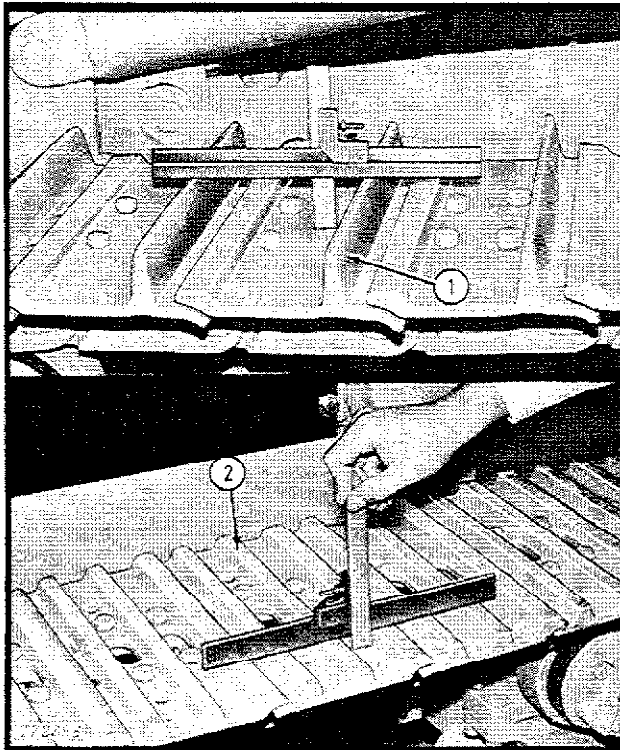
Connect track and remove floor jack from cross member.

## TRACK SHOES

### GENERAL INFORMATION

The five track roller assembly has 36 track shoes and 36 links. Track shoes are available in a variety of widths and types to accommodate various ground and working conditions.

### MEASURING GROUSER BAR HEIGHT



1—Standard Grouser                      2—Triple Semi Grouser

Fig. 12-Grouser Bar Measurement

Use a depth gauge consisting of D-05231ST 300 mm Metric Ruler, D-05265ST 150 mm Metric Ruler and D-05266ST Right Angle Attachment (part of D-05227ST Undercarriage Inspection Service Tool Kit) to measure grouser bar height.

Place a depth gauge over grouser bar as shown in Fig. 12. Repeat the measurement for several grousers and record the average depth.

Standard grouser height on a new shoe is 1.58 in. (40.2 mm). Minimum recommended standard grouser height is 0.75 in. (19.0 mm).

#### Standard Grouser Height

Dimension (allowable wear- 0.83 in. [21.2 mm])	Percent Worn
1.58 in. (40.2 mm)	0
1.50 in. (38.1 mm)	10
1.42 in. (36.0 mm)	20
1.33 in. (33.8 mm)	30
1.25 in. (31.7 mm)	40
1.17 in. (29.6 mm)	50
1.08 in. (27.5 mm)	60
1.00 in. (25.4 mm)	70
0.91 in. (23.2 mm)	80
0.83 in. (21.1 mm)	90
0.75 in. (19.0 mm)	100
0.67 in. (16.9 mm)	110
0.58 in. (14.8 mm)	120
0.50 in. (12.6 mm)	130

Triple semi-grouser height on a new shoe is 0.61 in. (15.5 mm). Minimum recommended triple semi-grouser height is 0.35 in. (9.0 mm).

#### Triple Semi-Grouser Height

Dimension (allowable wear- 0.26 in. [6.5 mm])	Percent Worn
0.61 in. (15.5 mm)	0
0.58 in. (14.9 mm)	10
0.56 in. (14.2 mm)	20
0.53 in. (13.6 mm)	30
0.51 in. (12.9 mm)	40
0.48 in. (12.3 mm)	50
0.45 in. (11.6 mm)	60
0.43 in. (11.0 mm)	70
0.40 in. (10.3 mm)	80
0.38 in. ( 9.6 mm)	90
0.35 in. ( 9.0 mm)	100
0.33 in. ( 8.4 mm)	110
0.30 in. ( 7.7 mm)	120
0.28 in. ( 7.0 mm)	130

**NOTE:** For additional information on measuring grouser bar height, refer to UNDERCARRIAGE APPRAISAL MANUAL SP-326.

**NOTE:** It is recommended to use the previous procedure for more accurate measurements when replacing the track components. A track wear gauge (JD266) is available, enabling the service technician to quickly check the condition of a track assembly.

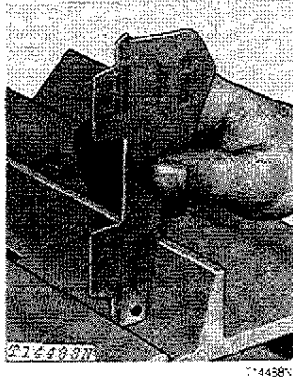


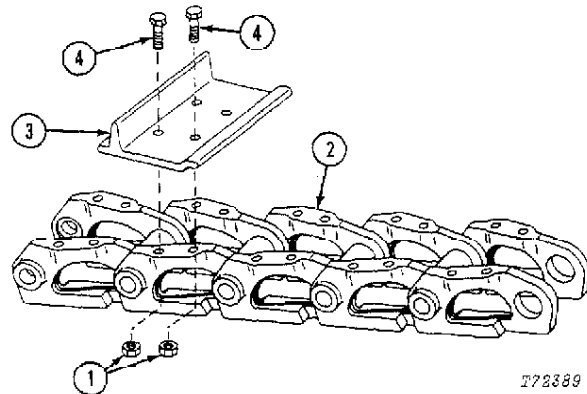
Fig. 13-Grouser Bar Wear

Use JD266 Track Wear Gauge to measure grouser bar wear.

Place gauge upright and against grouser bar as shown in Fig. 13.

Amount of wear is indicated on the gauge.

## REMOVAL



- 1—Special Nut (144 used)      3—Track Shoe (36 used)  
2—Track Assembly              4—Cap Screw (144 used)

Fig. 14-Track Shoe

Remove cap screws (4, Fig. 14) and nuts (1) fastening track shoe (3) to track (2).

Remove track shoe.

## REPAIR

Inspect shoes for excessive grouser wear, cracks or broken shoes.

Replace or rebuild shoes as necessary.

## INSTALLATION

Track shoe mounting surfaces of links and shoes must be clean and free of paint.

Lubricate cap screw threads and the bearing surface of the head.

Install track shoes and cap screws.

Install nuts with the rounded corners toward the track shoes.

Tighten track shoe cap screws to 120 lb-ft (163 N-m).

Tighten rubber track shoe nuts to 89 lb-ft (121 N-m).

## TRACK CHAIN ASSEMBLY

### GENERAL INFORMATION

The track links are joined together by press-fit, replaceable-type hardened pins and bushings. Since the pins and bushings normally wear on one side only, they can be rotated when half-worn and reinstalled for further service.

The ends of the track are joined by a master pin.

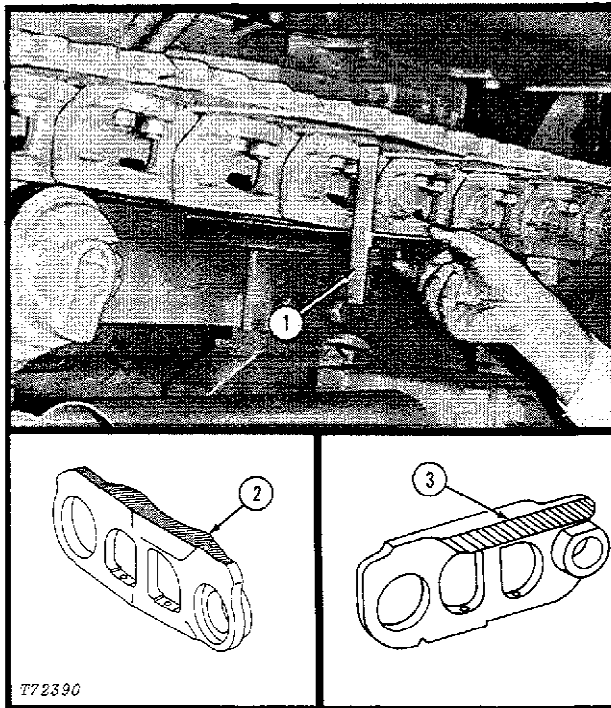
The master pin can be identified by the drill point in the end of the pin.

### MEASURING CHAIN WEAR

Measure the track chain components in as many positions as possible on both sides of the undercarriage.

This procedure will give a more accurate condition of the track.

#### Link Height



1—Link Height Measurement  
2—Link Rail Surface Wear

3—Rail Side Wear

Fig. 15—Link Height Measurement

Use a depth gauge consisting of D-05231ST 300 mm Metric Ruler, D-05265ST 150 mm Metric Ruler and D-05266ST Right Angle Attachment (part of D-05227ST Undercarriage Inspection Service Tool Kit) to measure link height.

Position a depth gauge over a track link as shown in Fig. 15. Record the measurement. Repeat the measurement for several links.

Link height of a new chain is 3.19 in. (81.0 mm). Minimum recommended link height is 3.02 in. (76.7 mm) for rebuilding link.

#### Link Height

Dimension (allowable wear - 0.17 in. [4.3 mm])	Percent Worn
3.19 in. (81.0 mm)	0
3.17 in. (80.6 mm)	10
3.16 in. (80.3 mm)	20
3.15 in. (79.9 mm)	30
3.13 in. (79.5 mm)	40
3.12 in. (79.2 mm)	50
3.10 in. (78.8 mm)	60
3.09 in. (78.4 mm)	70
3.07 in. (78.0 mm)	80
3.05 in. (77.4 mm)	90
3.02 in. (76.7 mm)	100
2.99 in. (76.0 mm)	110
2.96 in. (75.3 mm)	120
2.94 in. (74.6 mm)	130

**NOTE:** For additional information on measuring link height, refer to UNDERCARRIAGE APPRAISAL MANUAL SP-326.

**NOTE:** It is recommended to use the above procedure for more accurate measurements when replacing the track components. A track wear gauge (JD266) is available, enabling the service technician to quickly check the condition of a track assembly.

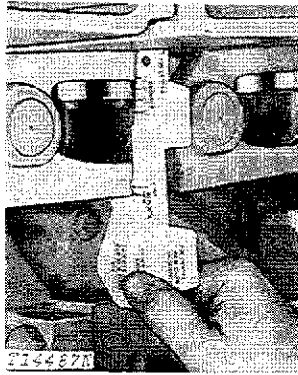
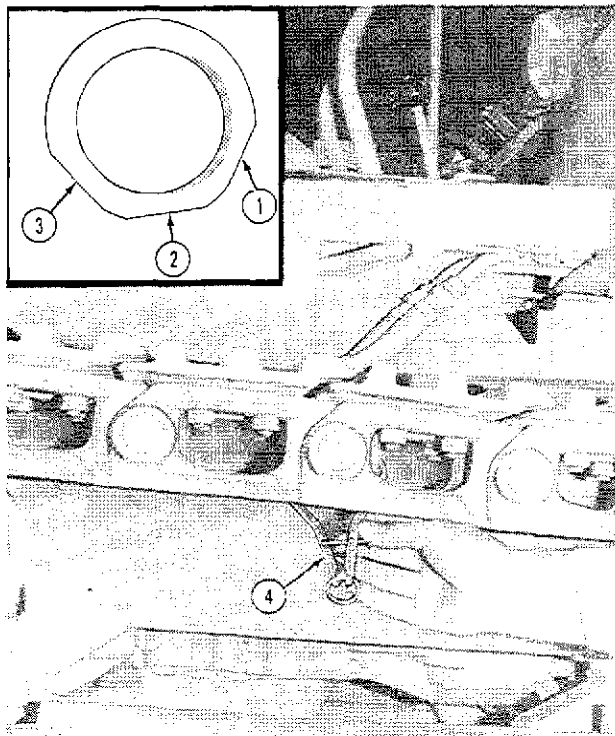


Fig. 16-Link Wear

Use JD266 Track Wear Gauge to measure link wear.

Position gauge on track link as shown in Fig. 16. With top of gauge (end with hole) against track shoe, check position of two arrows on gauge in relation to bottom of link. Link is worn if arrow marked "Replace" is at bottom edge of link.

### Bushing Outer Diameter



- 1—Reverse Drive Wear
- 2—Radial Wear
- 3—Forward Drive Side Wear
- 4—Bushing Outer Diameter Measurement

Fig. 17-Bushing Outer Diameter Measurement

Use a D-17524C1 4 in. Spring Caliper (part of D-05227ST Undercarriage Inspection Service Tool Kit) to measure bushing outer diameter.

Position a caliper around the bushing as shown in Fig. 17. A bushing wears in three positions, so measure wear by positioning the caliper accordingly. Record the smallest measurement. Repeat the measurement for several bushings.

Outside diameter of a new bushing is 1.75 in. (44.5 mm). Minimum recommended bushing outside diameter is 1.63 in. (41.4 mm) for rotating bushing.

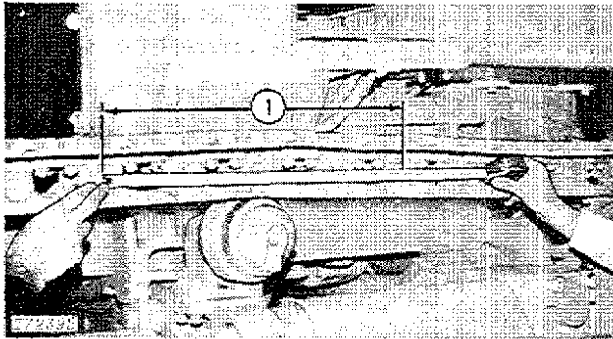
### Bushing Outer Diameter

Dimension (allowable wear-0.12 in. [3.1 mm])	Percent Worn
1.75 in. (44.5 mm)	0
1.74 in. (44.2 mm)	10
1.73 in. (43.9 mm)	20
1.72 in. (43.6 mm)	30
1.70 in. (43.3 mm)	40
1.69 in. (43.0 mm)	50
1.68 in. (42.7 mm)	60
1.67 in. (42.4 mm)	70
1.66 in. (42.1 mm)	80
1.65 in. (41.8 mm)	90
1.63 in. (41.4 mm)	100
1.59 in. (40.5 mm)	110
1.56 in. (39.6 mm)	120

NOTE: For additional information on measuring bushing outer diameter, refer to UNDERCARRIAGE APPRAISAL MANUAL SP-326.

### Track Pitch

To measure track pitch the track tension must be tight. Place a pin or block in the sprocket and reverse the unit until the track tension is tight.



1—Length Measurement

Fig. 18-Track Pitch Measurement

Use D-05230ST 3 Meter Steel Tape (part of D-05227ST Undercarriage Inspection Service Tool Kit) to measure track pitch.

Position a tape measure between a four link section (5 pins) of the track links as shown in Fig. 18. Record the measurement. Repeat the measurement for several sections, avoiding four sections either side of the master pin.

Distance across a four link section (5 pins) on a new chain is 23.03 in. (584.9 mm). Maximum recommended distance across four links (5 pins) is 23.51 in. (597.1 mm) for rotating pins and bushings.

### Track Pitch

Dimension (allowable wear-0.48 in. [12.2 mm]).	Percent Worn
23.03 in. (584.9 mm)	0
23.08 in. (586.1 mm)	10
23.13 in. (587.3 mm)	20
23.17 in. (588.6 mm)	30
23.22 in. (589.8 mm)	40
23.27 in. (591.0 mm)	50
23.32 in. (592.2 mm)	60
23.37 in. (593.4 mm)	70
23.41 in. (594.7 mm)	80
23.46 in. (595.9 mm)	90
23.51 in. (597.1 mm)	100
23.60 in. (599.5 mm)	110
23.69 in. (601.8 mm)	120
23.79 in. (604.2 mm)	130
23.88 in. (606.5 mm)	140
23.97 in. (608.9 mm)	150

*NOTE: For additional information on measuring track pitch, refer to UNDERCARRIAGE APPRAISAL MANUAL SP-326.*

*NOTE: It is recommended to use the above procedure for more accurate measurements when replacing the track components. A track wear gauge (JD266) is available, enabling the service technician to quickly check the condition of a track assembly.*





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