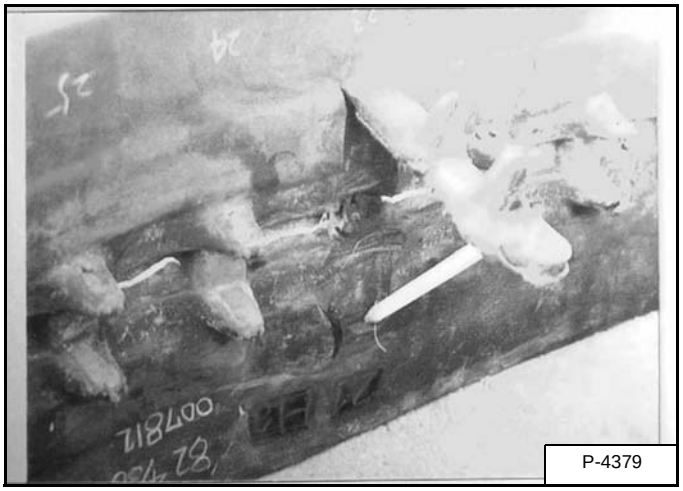
Track Damage Identification (Cont'd)

Separation Of Embedded Metals

Figure 40-30-7



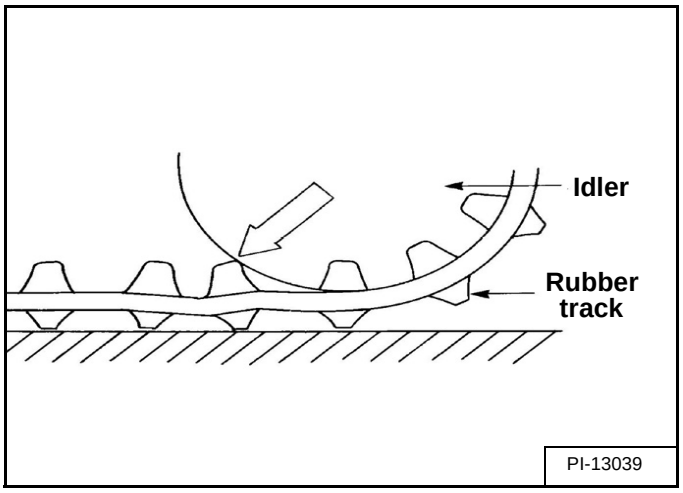
Damage:

Extraordinary outer forces applied to embedded metals cause their separation from the rubber track's body **[Figure 40-30-7]**.

Replacement:

Even a partial separation of embedded metals requires replacement of the track.

Figure 40-30-8

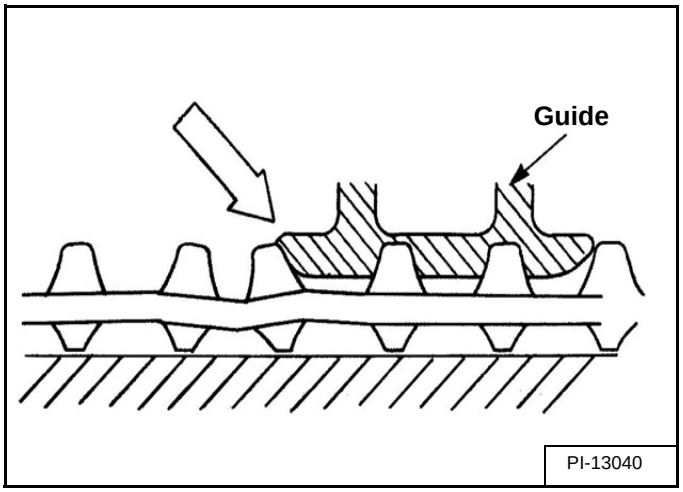


Causes of the damage:

Embedded metals are adhered between the steel cords and the rubber body. The following cases generate external forces greater than the adhesion strength, causing separation of the embedded metals:

When the idler continually rides on the projections of embedded metals, the embedded metals will eventually peel off **[Figure 40-30-8]**.

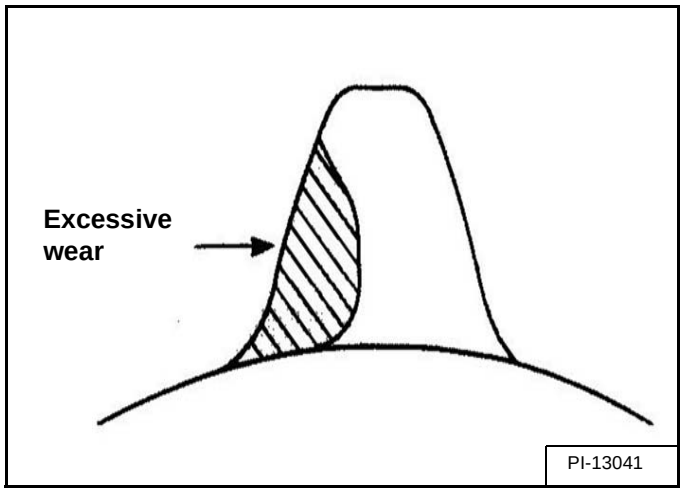
Figure 40-30-9



When a rubber track is detracked, it becomes stuck between the guide or the undercarriage frame, causing the separation of embedded metals **[Figure 40-30-9]**.

Track Damage Identification (Cont'd)

Figure 40-30-10



Excessively worn sprockets, example shown **[Figure 40-30-10]** will pull embedded metals out of the track.

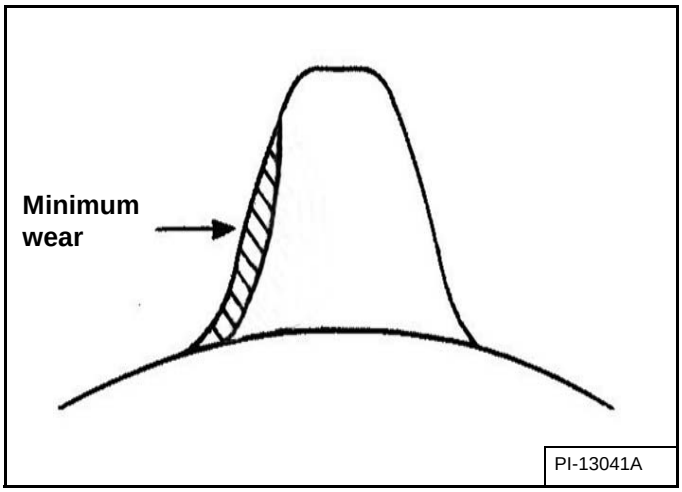
Prevention:

Similar to the prevention against the cutting of the steel cords:

Recommended track tension should be periodically checked. (See DRIVE SYSTEM TOC on Page 40-01.)

Quick turns on bumpy and rocky fields should be avoided.

Figure 40-30-11



Sprocket Rotation:

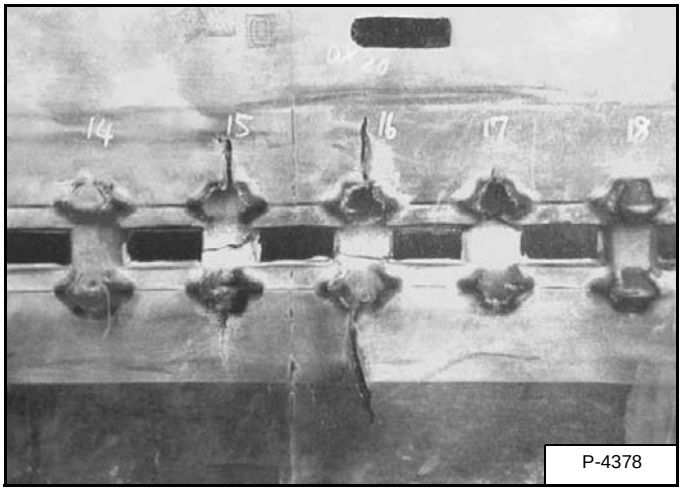
Certain applications or conditions can cause wear on the sprockets. Rotating the sprockets to the opposite side of the loader will help extend sprocket life **[Figure 40-30-11]**. (See Track Damage Identification on Page 40-30-1.)

Remove the sprocket. (See DRIVE SYSTEM TOC on Page 40-01.)

Track Damage Identification (Cont'd)

Separation Of Embedded Metals Due To Corrosion

Figure 40-30-12



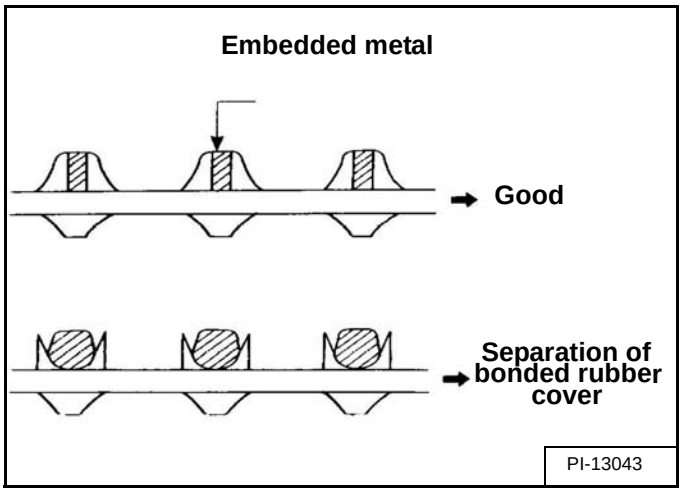
Damage:

Due to corrosion of embedded metals, the adhesion to the rubber body deteriorates, resulting in complete separation **[Figure 40-30-12]**.

Replacement:

Even a partial separation of embedded metals requires a rubber track replacement.

Figure 40-30-13



Causes of the damage:

Embedded metals are bonded to the rubber body. The following operating conditions cause embedded metals to corrode, causing deterioration of the bonding, and finally resulting in separation of the embedded metals from the rubber body **[Figure 40-30-13]**.

Excessively salty fields, like the sea shore

Strong acidic or alkali soil conditions

Compost spread grounds

On tracks that are out of adjustment, the track rollers, idlers and sprockets will gradually wear the rubber surface at track roller side, causing exposure of the embedded metals. Consequently the embedded metals will corrode resulting in their separation from the rubber body.

Prevention:

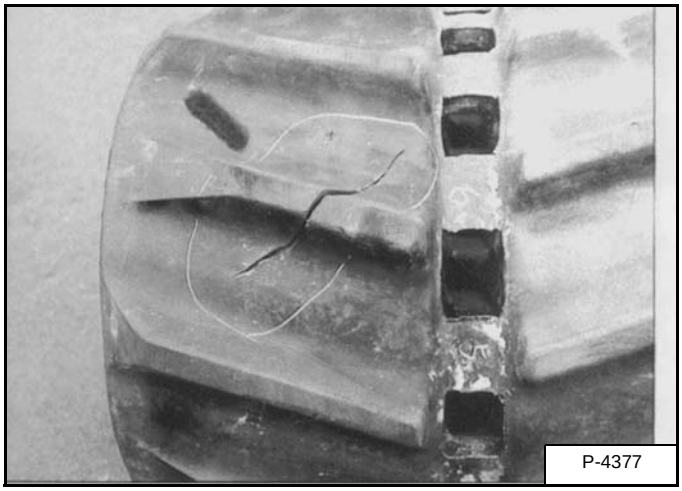
If rubber tracks are used under such field conditions as described under (Causes of the damage), they should be washed with plenty of water. After being completely dried, they should be stored correctly.

When the bonded rubber cover is separated from the embedded metal projections and the metals in the rubber body become loose, it is time to consider replacement of the rubber track.

Track Damage Identification (Cont'd)

Cuts On The Lug Side Rubber

Figure 40-30-14



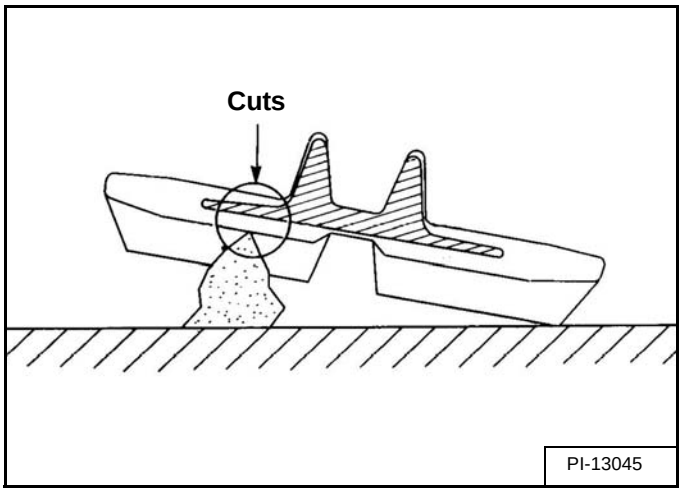
Damage:

Cuts on the lug side rubber often occurs as one of the most typical failure modes **[Figure 40-30-14]**.

Replacement:

When a cut on the lug side rubber reaches the embedded steel cords, it should be immediately repaired with cold vulcanization rubber.

Figure 40-30-15



Causes of the damage:

When rubber tracks drive over projections or sharp stones in the fields, the concentrated forces applied cause cuts on the lug side rubber surface. In case of making turns on projections, the lug side rubber surface will have an even higher chance to be cut. If the cuts run through the embedded steel cords, it might result in the steel cords' breakage due to their corrosion. It is highly recommended to repair the cuts with cold vulcanization rubber as soon as they are observed **[Figure 40-30-15]**.

Prevention:

Machine operators are requested to drive with great attention to the ground's surface especially in terrains of the following type:

Construction sites

Demolition sites

Paths covered with rocks and wood

Concrete ridges

Stumpy fields

When operating on terrains as mentioned above, high speed, quick turns and overloading should be avoided.

Track Damage Identification (Cont'd)

Cracks On The Lug Side Rubber Due To Fatigue

Figure 40-30-16

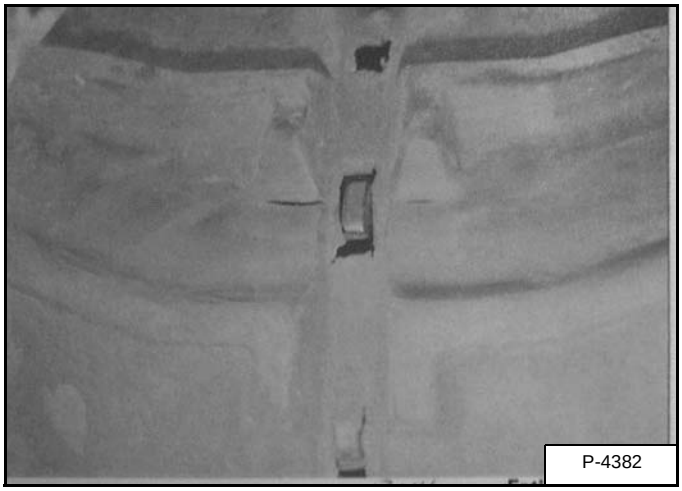
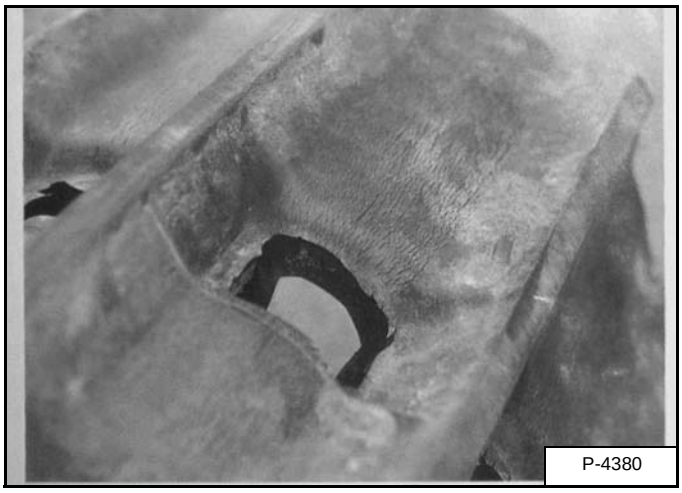


Figure 40-30-17



Damage:

Small cracks around the root of the lug as a result from operation fatigue **[Figure 40-30-16]** and **[Figure 40-30-17]**.

Replacement:

When the cracks reach so deep that they expose the steel cords, track replacement is required.

Causes of the damage:

Because of wound stress applied to rubber tracks around the undercarriage parts during operation, the fatigue especially causes cracks on the lug side rubber surface. Once the cracks occur, they gradually deteriorate with even small external cracks. Also when operating near seashores or under cold temperatures, rubber tracks are more likely to suffer from ozone cracks.

Prevention:

Rubber tracks are designed with special rubber compounds to prevent cracks due to fatigue. However, external injuries on the lug side rubber sometimes cause more chance of cracking. Machine operators should observe soil conditions when driving, so as not to cause external injuries to the lug side rubber. In order to minimize the occurrence of ozone cracks, attention should be paid to the following instructions for maintenance:

Avoid exposing stored tracks to direct sun light.

Avoid exposing stored tracks to direct rain and snow fall.

Store tracks in well ventilated warehouses.

Use the tracks at least once a month.