

## TRACK FRAME COMPONENTS (CONT'D)

### Track Damage Identification (Cont'd)

Figure 30-20-101

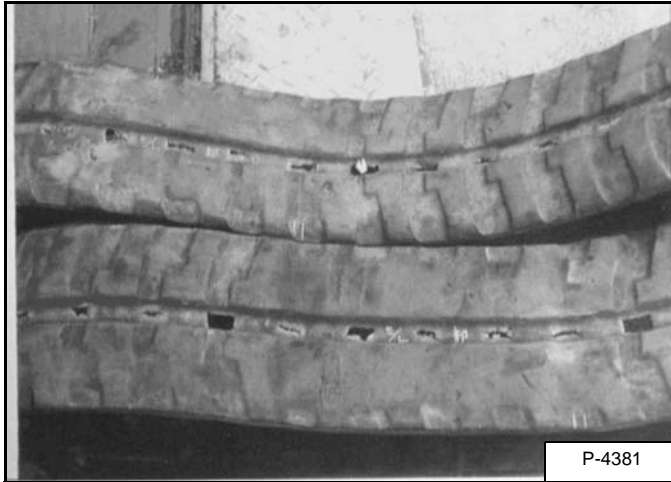
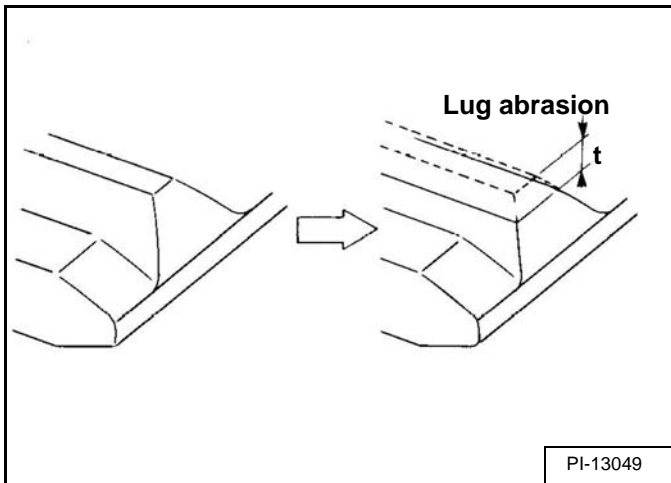


Figure 30-20-102



#### Lug Abrasion

#### Damage:

As its service time proceeds, the lug side inevitably undergoes abrasion [Figure 30-20-101] & [Figure 30-20-102].

#### Replacement:

No replacement is required.

#### Causes of the damage:

Lug abrasion is more or less inevitable. Even if lug abrasion is proceeding, the rubber track can be used. However, as the traction performance deteriorates accordingly, it is highly recommended to replace the

abraded tracks with new ones when the lug height becomes less than 5 mm.

#### Prevention:

In order to prevent the rubber track from abnormal or premature abrasion, following operating conditions should be avoided:

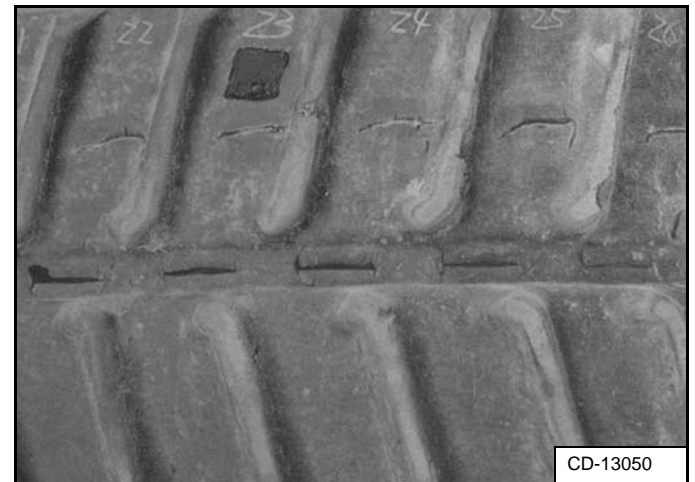
Making quick and repeated turns on concrete and asphalt roads

Driving up and down hilly paths with slippage.

Making frequent turns on paths covered with rocks and wood.

#### Cracks And Cuts On The Lug Side Rubber

Figure 30-20-103



#### Damage:

Sometimes cracks and cuts on the lug side rubber at the edges of the embedded metals can be observed [Figure 30-20-103].

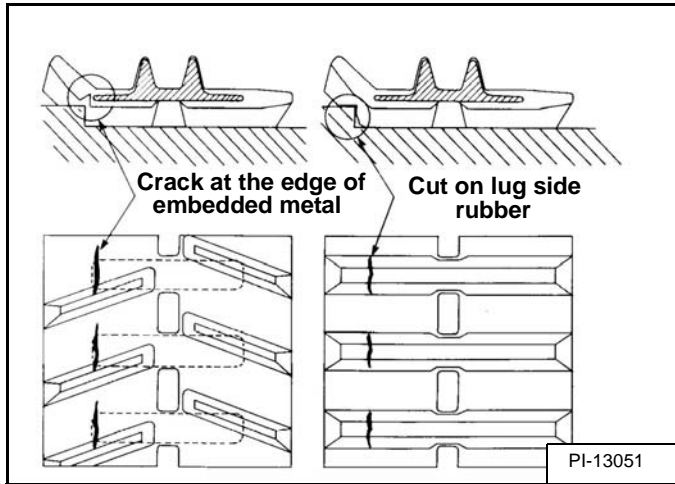
#### Replacement:

Basically, no replacement is required unless the cuts on the lug side rubber are discovered all around the edges of the embedded metals, as this will result in a complete cut off.

## TRACK FRAME COMPONENTS (CONT'D)

### Track Damage Identification (Cont'd)

Figure 30-20-104



#### Causes of the damage:

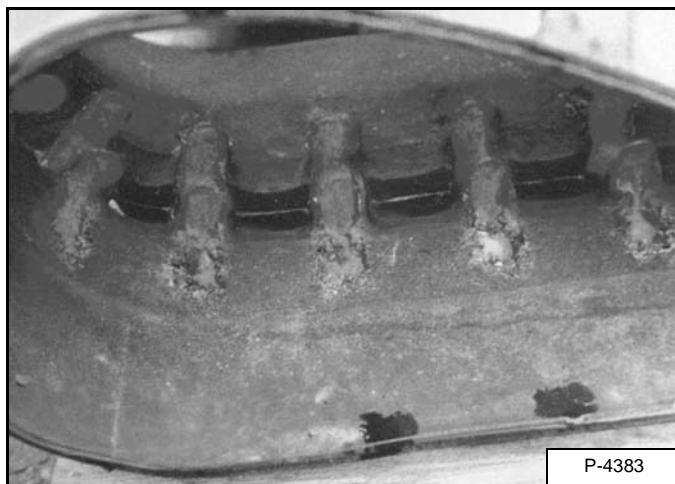
When rubber tracks drive over sharp projections, intensive stress is applied to the lug side rubber surface, especially at the edges of embedded metals, causing cracks and cuts in the area around the embedded metals [Figure 30-20-104].

#### Prevention:

To avoid extensive stress applied to the lug root where metals are embedded, machine operators are requested to avoid driving over stumps and ridges.

#### *Abrasion Of The Track Roller Side*

Figure 30-20-105



#### Damage:

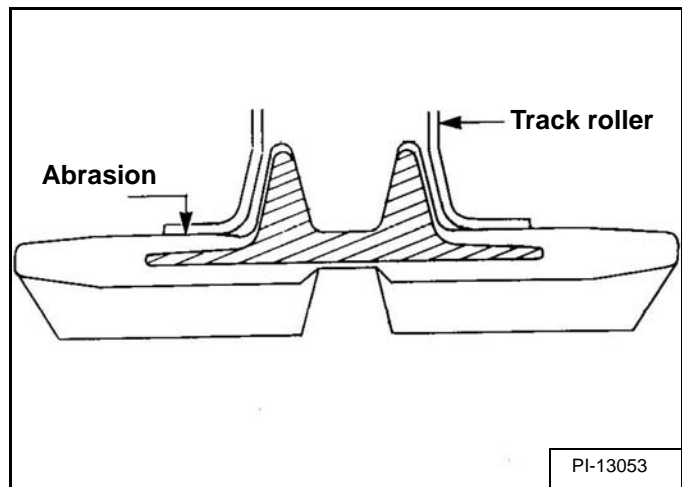
The rubber surface on which track rollers run is gradually abraded. It will end in the exposure of the embedded metals [Figure 30-20-105].

#### Replacement:

It is recommended to replace the rubber track when more than half of the embedded metals are completely exposed.

#### Causes of the damage:

Figure 30-20-106



The abrasion of the track roller side rubber surface occurs because of sand and gravel being clogged between the rubber and the outside surface of the track rollers. The stress pushes the sand and gravel against the side of the rubber track to cause the abrasion [Figure 30-20-106].

The level of abrasion is highly dependent on terrain conditions. A higher level of abrasion will occur when the rubber tracks are operated in fields covered with many stones and gravel. Small stones hardened with mud, stuck to the track rollers increase the abrasion level. After an extended period of abrasion, it will be more likely for exposed embedded metals to catch moisture through the inside steel cords, which can cause breakage of steel cords and separation of the metals from the rubber body.

#### Prevention:

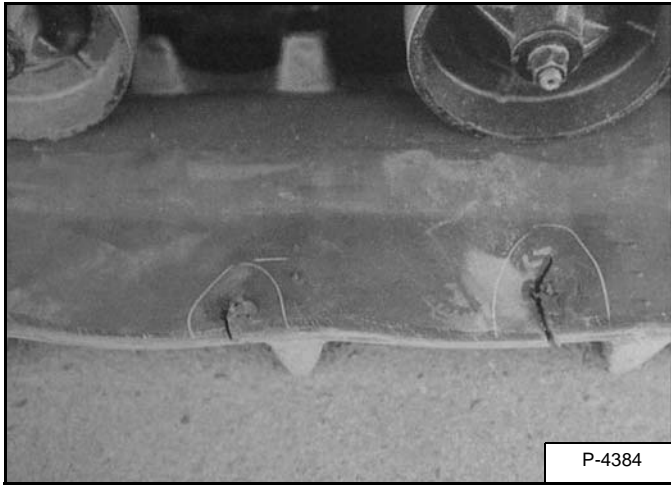
After operation in wet fields containing many small stones, wash off the mud that is stuck to the track rollers completely. When operating on gravel paths and stony grounds, machines should be driven slowly and the turning radius should be big enough to prevent stones and gravel from getting stuck to the track roller side rubber.

## TRACK FRAME COMPONENTS (CONT'D)

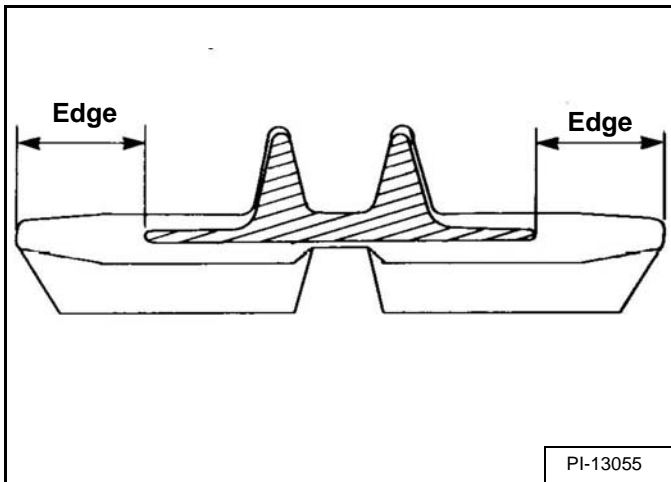
### Track Damage Identification (Cont'd)

*Cuts On The Edges Of Track Roller Side*

**Figure 30-20-107**



**Figure 30-20-108**



#### Damage:

Both edges of a rubber track have no special reinforcements. It sometimes occurs during operation that they are cut or torn off [Figure 30-20-107] & [Figure 30-20-108].

#### Replacement:

In such case, the rubber track does not have to be replaced.

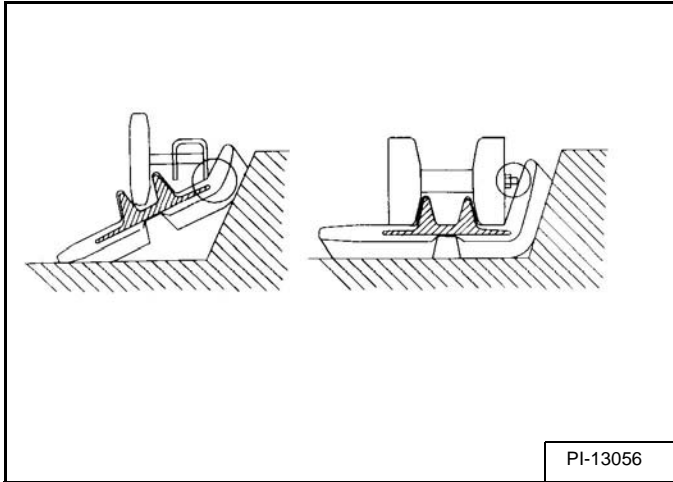
#### Causes of the damage:

This damage is caused by objects on the field or by interference with the machine frame.

## TRACK FRAME COMPONENTS (CONT'D)

### Track Damage Identification (Cont'd)

Figure 30-20-109



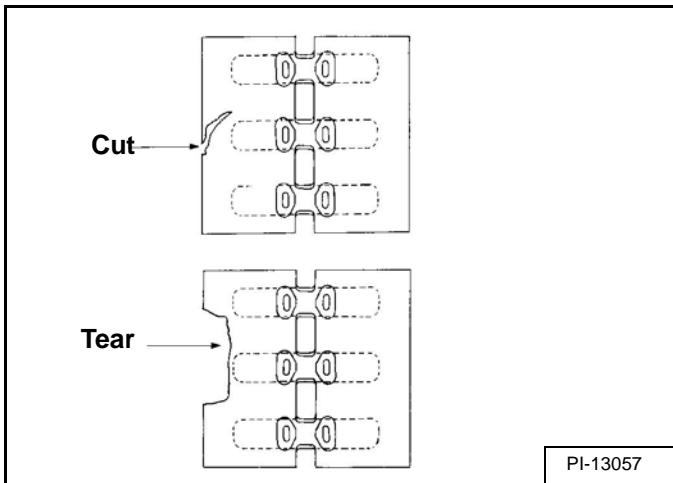
In case of damage by interference with the machine frame

If a machine continues operating with rubber tracks being detracted, the rubber tracks may get caught up in the machine frame or undercarriage parts resulting in damage. Furthermore, when a machine travels along side slopes, the rubber tracks are deformed so much that they come into contact with the machine frame and undercarriage parts, which causes cutting, gouging and rubbing of rubber tracks in the end [Figure 30-20-110].

Prevention:

When traveling, a machine operator should be careful not to drive over any projections on the ground. He should also prevent rubber tracks from coming into contact with concrete walls, ditches and ridges. If rubber tracks are detracted, the machine should be stopped immediately for retracting.

Figure 30-20-110



In case of damage by objects on the operating ground:

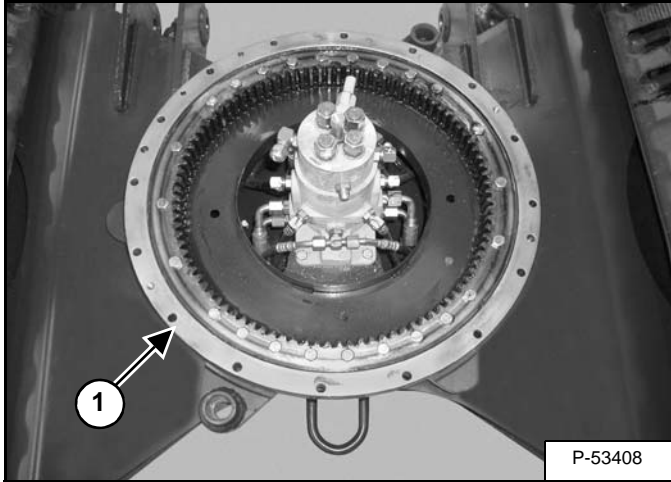
The edges of rubber track are often deformed largely due to a bumpy ground surface, stones and other objects, which cause extensive stress on the edges resulting in the damage. Especially, when a machine drives over concrete ridges, this type of damage easily occurs [Figure 30-20-110].

## SWING CIRCLE GEAR

### Removal

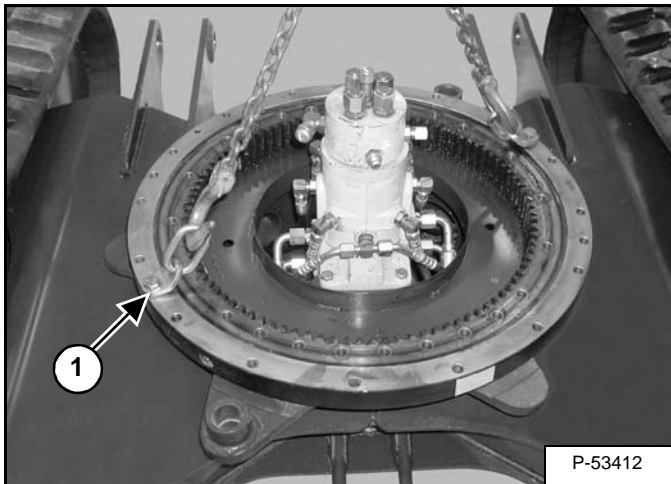
Remove the upperstructure. (See Removal on Page 40-10-1.)

**Figure 30-30-1**



Remove the bolts and nuts that hold the swing bearing (Item 1) [Figure 30-30-1] to the track frame.

**Figure 30-30-2**

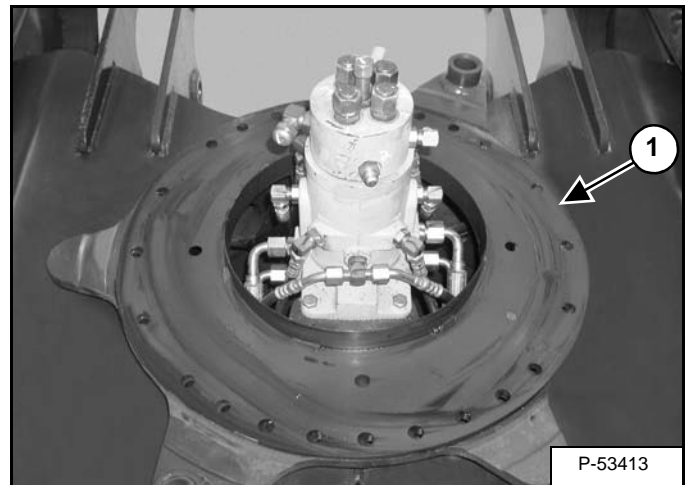


Install lifting brackets (Item 1) [Figure 30-30-2] on the swing bearing.

Install a lifting hoist on the brackets.

Remove the swing bearing.

**Figure 30-30-3**



Remove the grease cover (Item 1) [Figure 30-30-3] from the track frame.

Clean and inspect the grease cover for damage. Replace as necessary.

## SWING CIRCLE GEAR (CONT'D)

### Installation

Figure 30-30-4

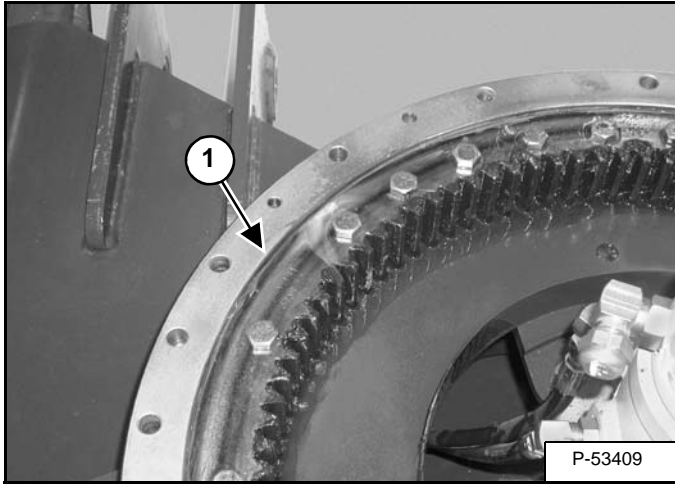
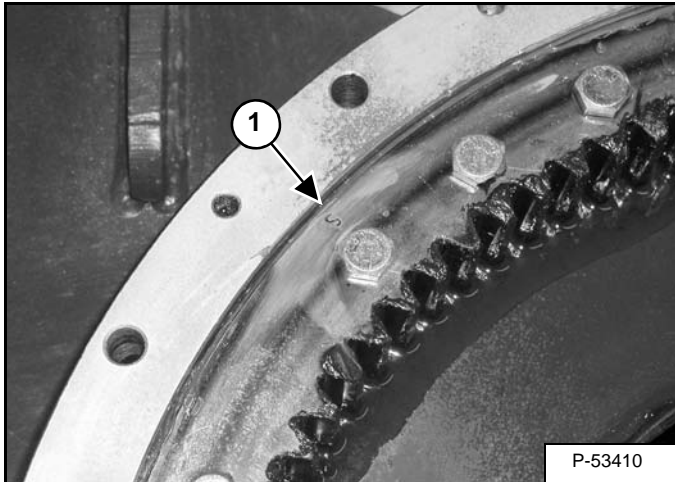


Figure 30-30-5

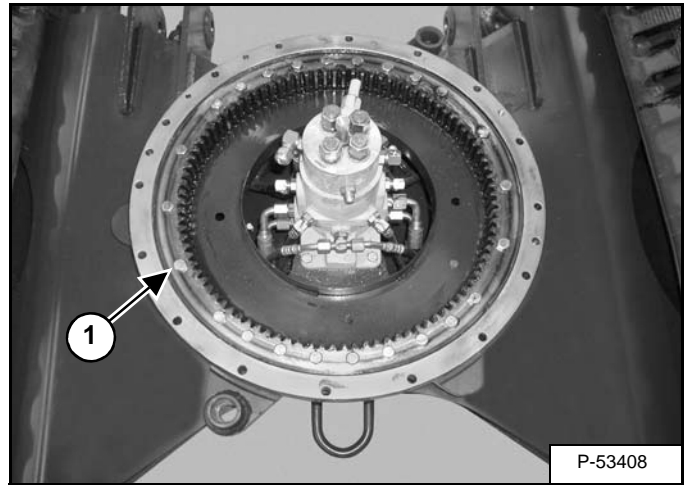


If reusing the existing swing bearing, use top, side and edge aligning marks to put the swing bearing in the correct location. If installing a new swing bearing find the soft zone area (Item 1) [Figure 30-30-4] & [Figure 30-30-5].

Install the swing bearing so the inside soft zone (Item 1) [Figure 30-30-4] & [Figure 30-30-5] is at either the left hand or right hand side of the excavator.

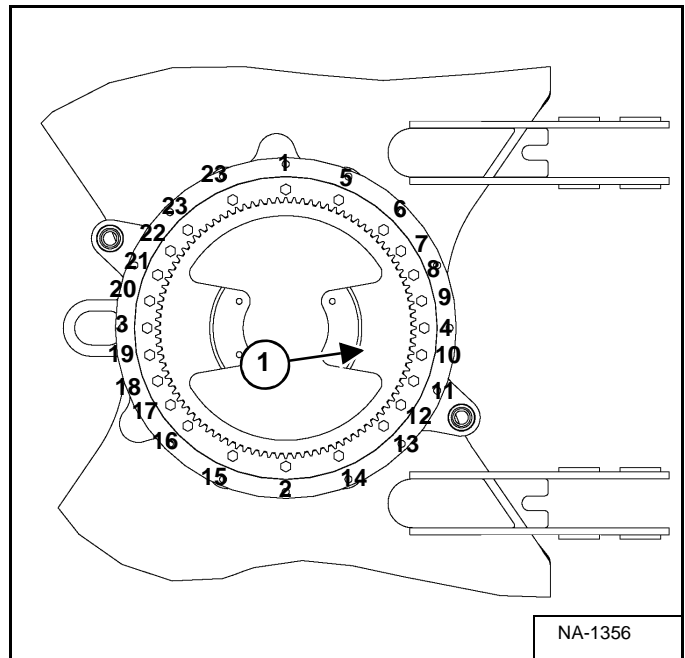
**NOTE: Do not put the soft zone to the front or rear of the excavator.**

Figure 30-30-6



Install the bolts (Item 1) [Figure 30-30-6] and lock nuts.

Figure 30-30-7



Tighten the bolts in the correct sequence (#1 to #24) to  $105 \pm 5$  ft.-lb. ( $142 \pm 7$  N•m) torque [Figure 30-30-7].

Retorque bolts (#1 to #4) after all bolts have been torqued.

Put lubriplate grease or equivalent on the swing bearing gear.

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**TIGHTEN ALL HARDWARE PER SIZE TO GRADE 5 TORQUE (SEE STANDARD TORQUE SPECIFICATIONS FOR BOLTS, SECTION SPEC-01) UNLESS OTHERWISE SPECIFIED.**

**SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE AND STANDARD ITEMS MAY VARY.**