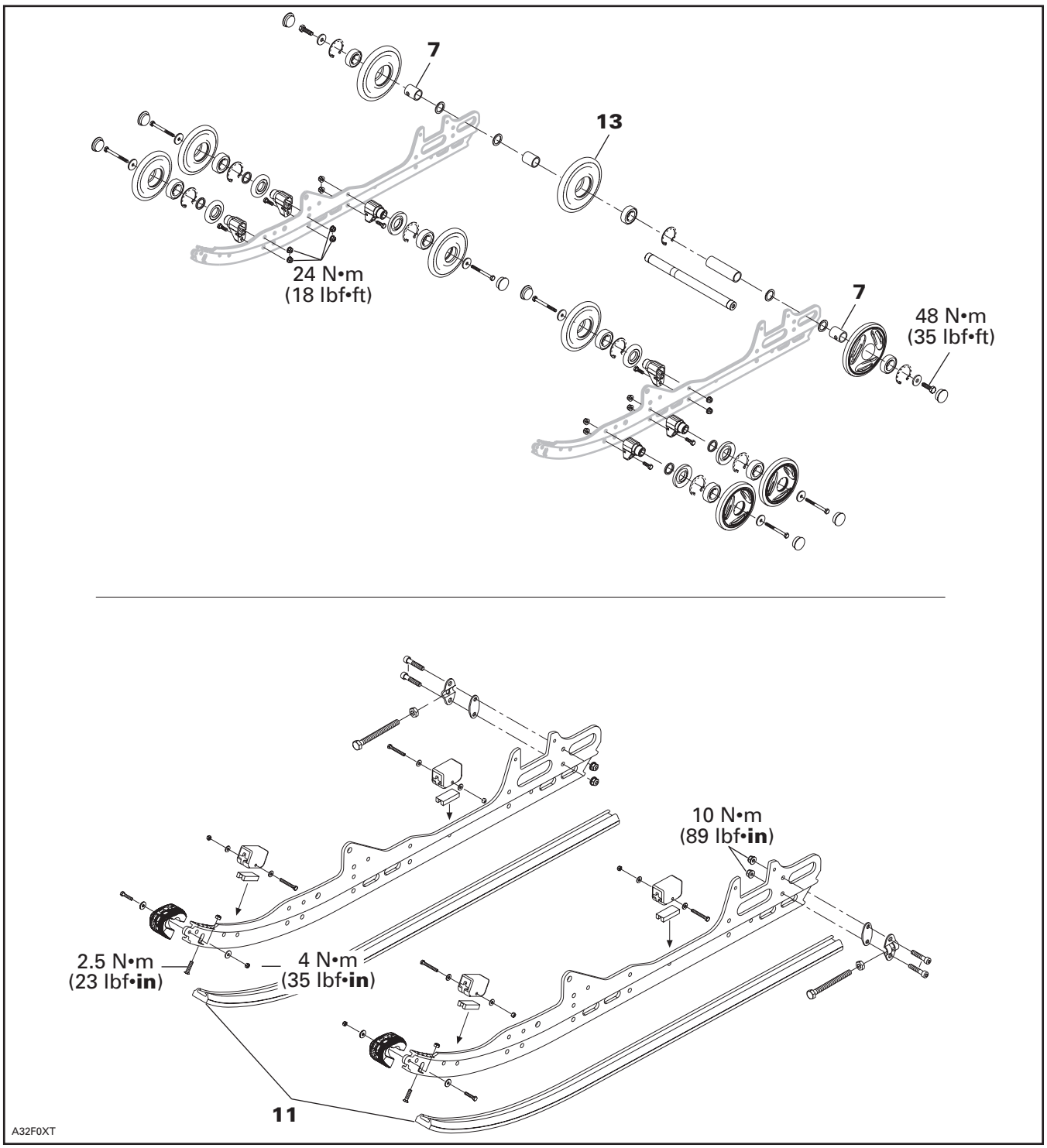
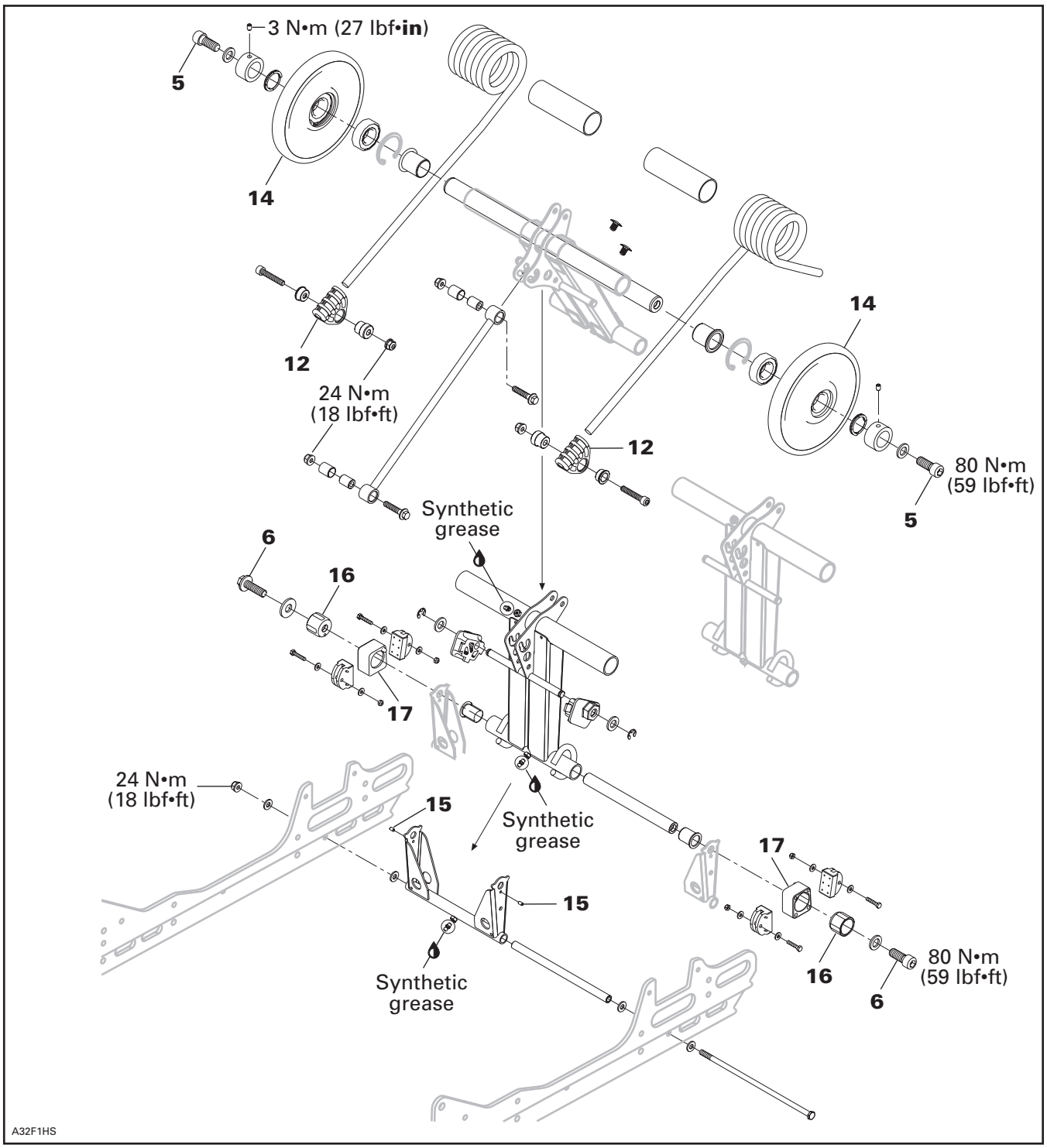
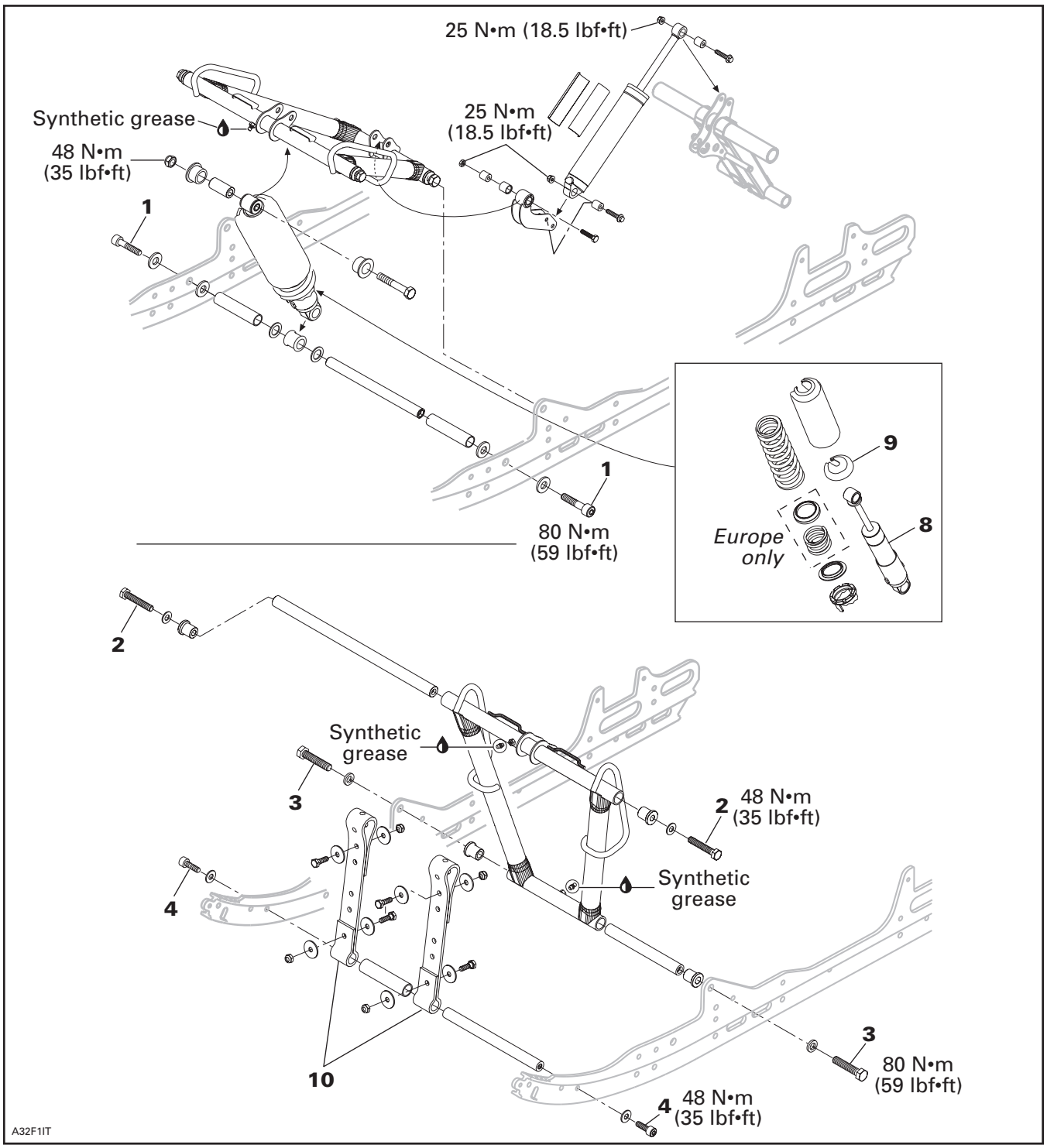
TABLE OF CONTENTS

SC-10 II SUSPENSION

SC-10 II




3 N•m (27 lbf•in)
5
14
12
24 N•m
(18 lbf•ft)
14
12
80 N•m
(59 lbf•ft)
5
Synthetic
grease
6
16
17
24 N•m
(18 lbf•ft)
15
Synthetic
grease
17
15
Synthetic
grease
16
80 N•m
(59 lbf•ft)
6
A32F1HS

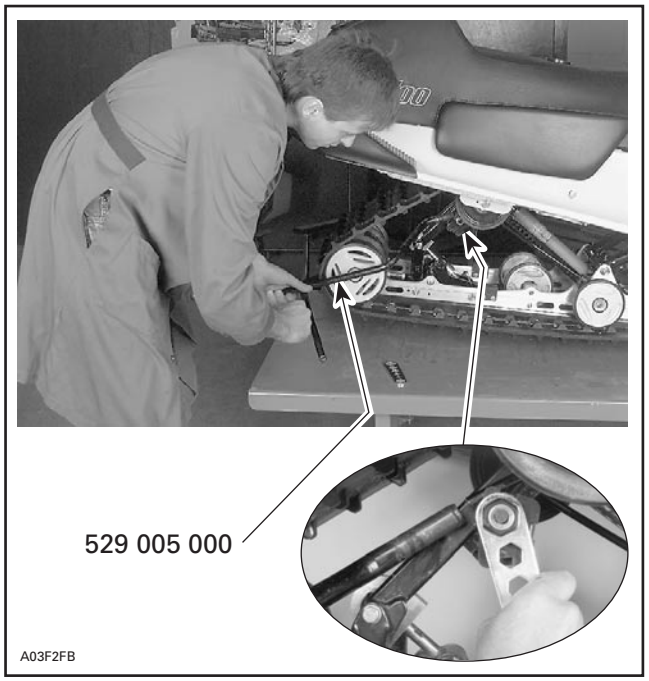

25 N•m (18.5 lbf•ft)
Synthetic grease
48 N•m
(35 lbf•ft)
25 N•m
(18.5 lbf•ft)
1
1
80 N•m
(59 lbf•ft)
9
8
Europe
only
2
Synthetic
grease
3
2
48 N•m
(35 lbf•ft)
4
Synthetic
grease
10
3
80 N•m
(59 lbf•ft)
4
48 N•m
(35 lbf•ft)
A32F1IT

SUSPENSION ASSEMBLY REMOVAL

19, Cam

Decrease spring preload by turning cams accordingly.

Slightly turn adjusting cam to expose spring end. Using spring installer (P/N 529 005 000), remove both springs from adjusting cams.



TYPICAL

Lift rear of vehicle and support it off the ground.

Loosen track tension.

1,2,3,4,5,6, Self-Locking Screws

CAUTION: These self-locking screws must always be replaced by new ones everytime they are removed.

NOTE: To prevent axle from turning when unscrewing self-locking screws, proceed as follows:

- Remove one self-locking screw then install a 10 mm shorter non-self-locking one in place. Torque as specified in exploded view.
- Remove the opposite self-locking screw.
- Remove the temporary installed non-self-locking screw.
- If it doesn't work, heat bolt head to melt threadlocker.

Remove rear arm top axle self-locking screws **no. 5** from chassis.

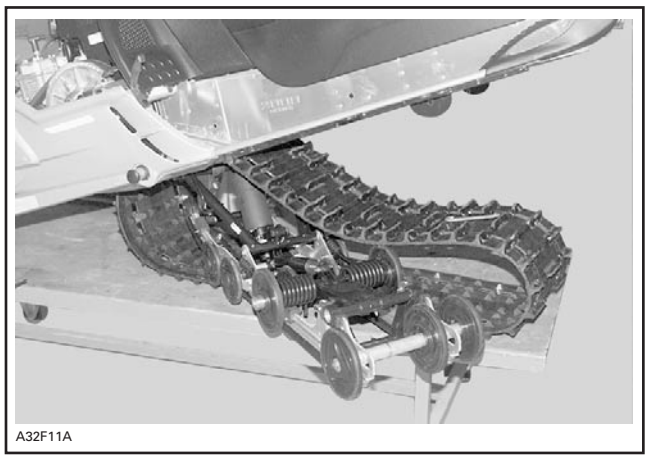
Lift rear of vehicle at least 1 m (3 ft).

TYPICAL

A. At least 1 m (3 ft)

Remove both self-locking screws **no. 2** retaining front arm to tunnel.

Remove suspension.

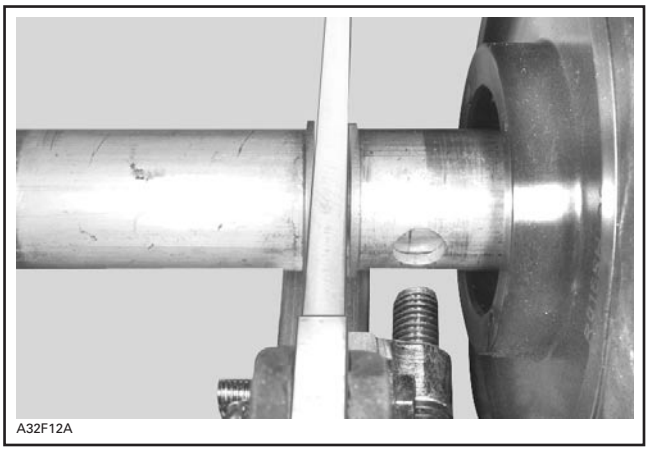


DISASSEMBLY AND ASSEMBLY

Inspect track thoroughly before reinstalling suspension. Refer to TRACK.

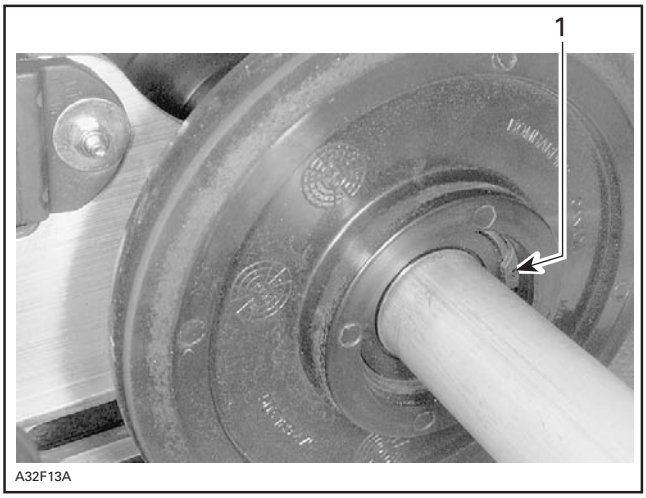
7, Outer Bushing

At installation, hole must face adjustment screw.



13,14, Center Rear Wheel and Top Idler Wheels

At installation, circlip must face inner side.

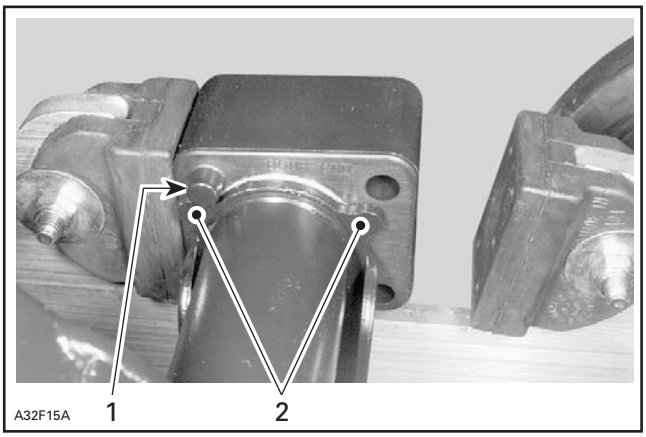


1. Circlip facing inner side

17, Block

Both blocks are identified R or L (right or left), see second following photo. At installation, make sure to install proper block on proper side.

Also, note that protrusion must be positioned above stoppers.

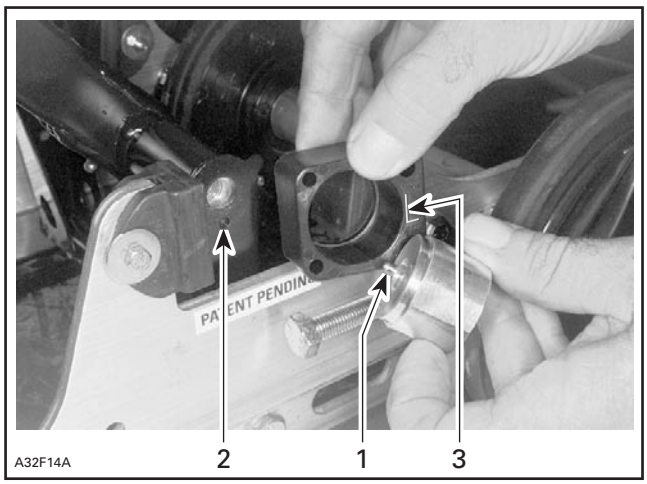


1. Protrusion
2. Stoppers

15,16, Dowel Pin and Block Guide

Dowel pin must exceed block guide by 2 to 2.3 mm (.079 to .091 in).

At installation, insert dowel pin into pivot arm hole.



LEFT SIDE SHOWN

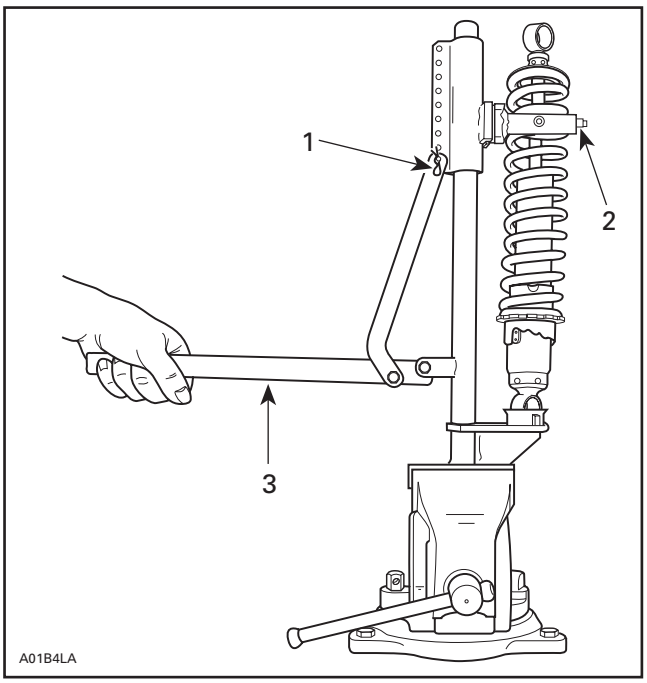
1. Dowel pin
2. Pivot arm hole
3. "L" identification for left side

8,9, Front Shock and Spring Stopper

Use shock spring remover (P/N 529 035 504) and put it in a vise. Mount shock in it and turn shock so that a spring coil rests against spring compressor jaw.

Close and lock bar. Place handle horizontally by changing position of clevis pin.

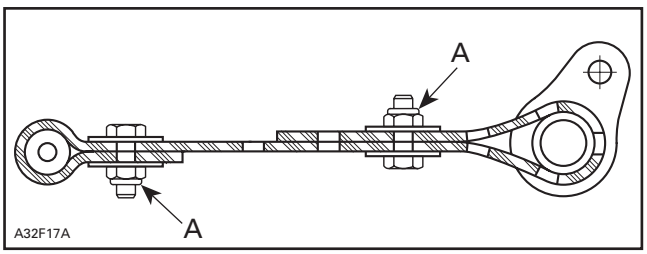
Push down on handle until it locks. Remove spring stopper then release handle.



1. *Clevis pin*
2. *Bar*
3. *Handle placed horizontally*

10, Stopper Strap

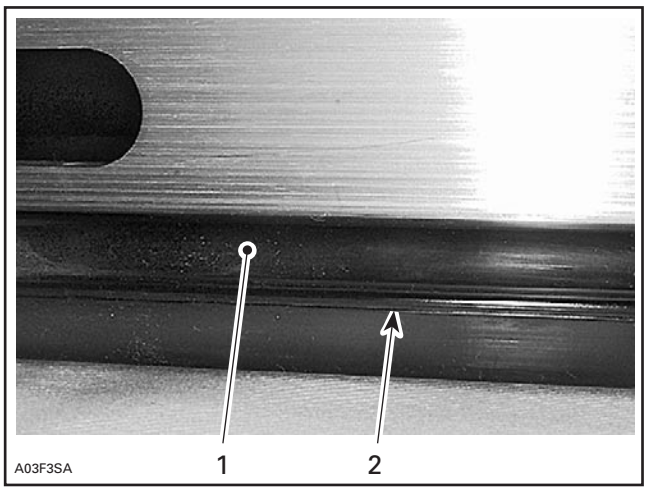
Inspect strap for wear or cracks, bolt and nut for tightness. If loose, inspect hole for deformation. Replace as required. Make sure it is attached through proper holes. Torque nut to 7 N•m (62 lbf•**in**).



*A. 7 N•m (62 lbf•**in**)*

11, Slider Shoe

Molding line is the wear limit indicator.



TYPICAL

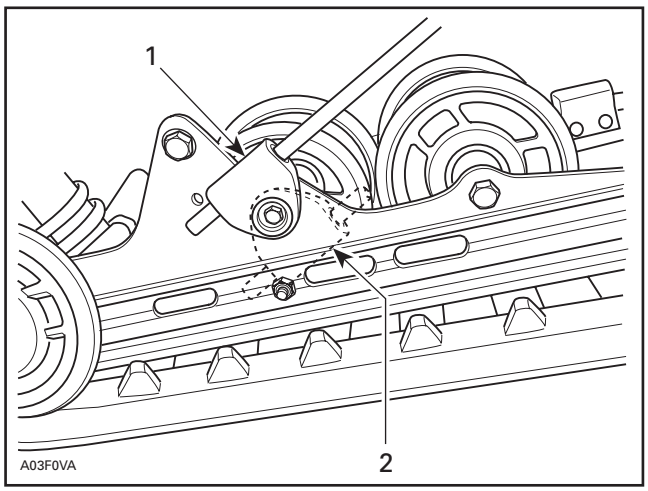
1. *Slider shoe*
2. *Molding line (wear limit indicator)*

Replace slider shoes when wear limit is reached.

CAUTION: Slider shoes must always be replaced in pairs.

12, Spring Support

CAUTION: To avoid track damage, spring supports must be mounted upward.



TYPICAL — RIGHT SIDE SHOWN

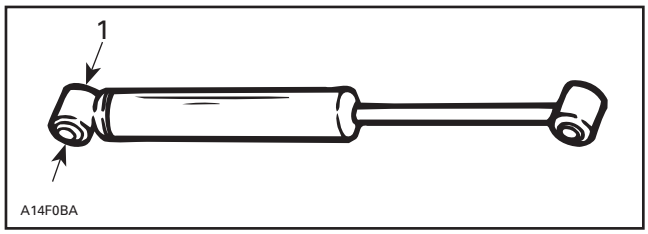
1. *Right position: upward*
2. *Wrong position*

SHOCK ABSORBER INSPECTION

All Models Equipped with Hydraulic Shock

NOTE: Hydraulic shocks are painted black or dark gray.

Secure the shock body end in a vise with its rod upward.



1. Clamp

CAUTION: Do not clamp directly on shock body.

Examine each shock for leaks. Extend and compress the piston several times over its entire stroke. Check that it moves smoothly and with uniform resistance with its rod upward.

Pay attention to the following conditions that will denote a defective shock:

– A skip or a hang back when reversing stroke at mid travel.
– Seizing or binding condition except at extreme end of either stroke.
– Oil leakage.
– A gurgling noise, after completing one full compression and extension stroke.

Renew if any faults are present.

All Models Equipped with Gas Pressurized Shock

NOTE: Gas pressurized shocks are light gray or purple painted, or bare aluminum.

Gas shock can be inspected as follows:

Because of gas pressure, strong resistance is felt when compressing shock. When released, the shock will extend unassisted. Renew as required.

If suspecting an internal gas leak between oil chamber and gas chamber, check shock as follows:

Install shock in a vise clamping on its bottom eyelet with its rod upward.

Let it stand for 5 minutes.

Completely push down the shock rod then release.

Rod must come out at a steady speed. If speed suddenly increases particularly at end of extension, replace shock.

All Types of Shock

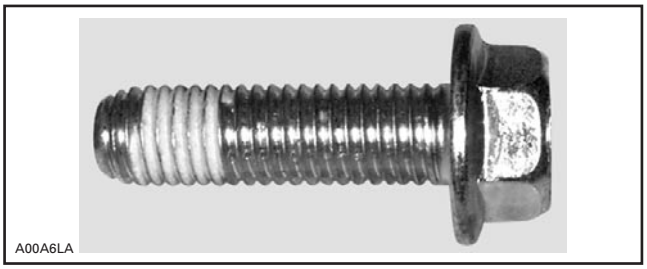
If suspecting a frozen shock proceed as follows:

Place shock in a freezer (temperature below 0°C (32°F)) for 4 hours.

Push down on rod and note its resistance. If shock is frozen it will be much more difficult to compress than for the new one.

INSTALLATION

Before the installation procedure, make sure to check the following procedure of self locking fastener.



TYPICAL — SELF-LOCKING FASTENER

Use a metal brush or a screwtap to clean the hole properly then use a solvent (Methyl-Chloride), let act during 30 minutes and wipe off. The solvent utilization is to ensure the adhesive works properly.

Install assembled suspension into track with front portion first.

Insert rear portion of suspension into track.

Bolt front arm and rear arm.

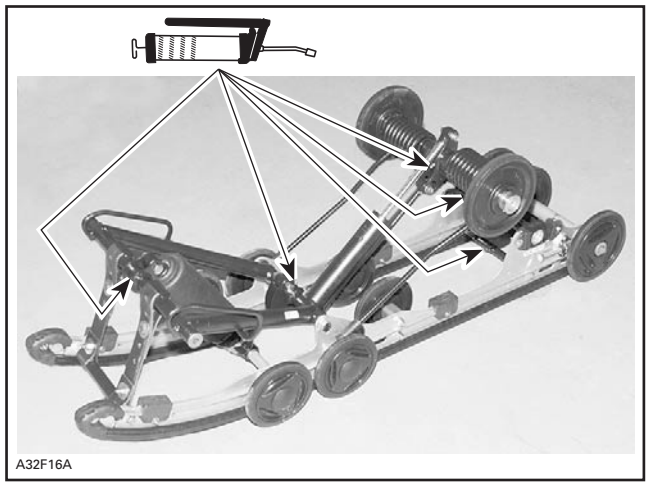
Adjust track tension.

RIDE ADJUSTMENT

Refer to *Operator's Guide*.

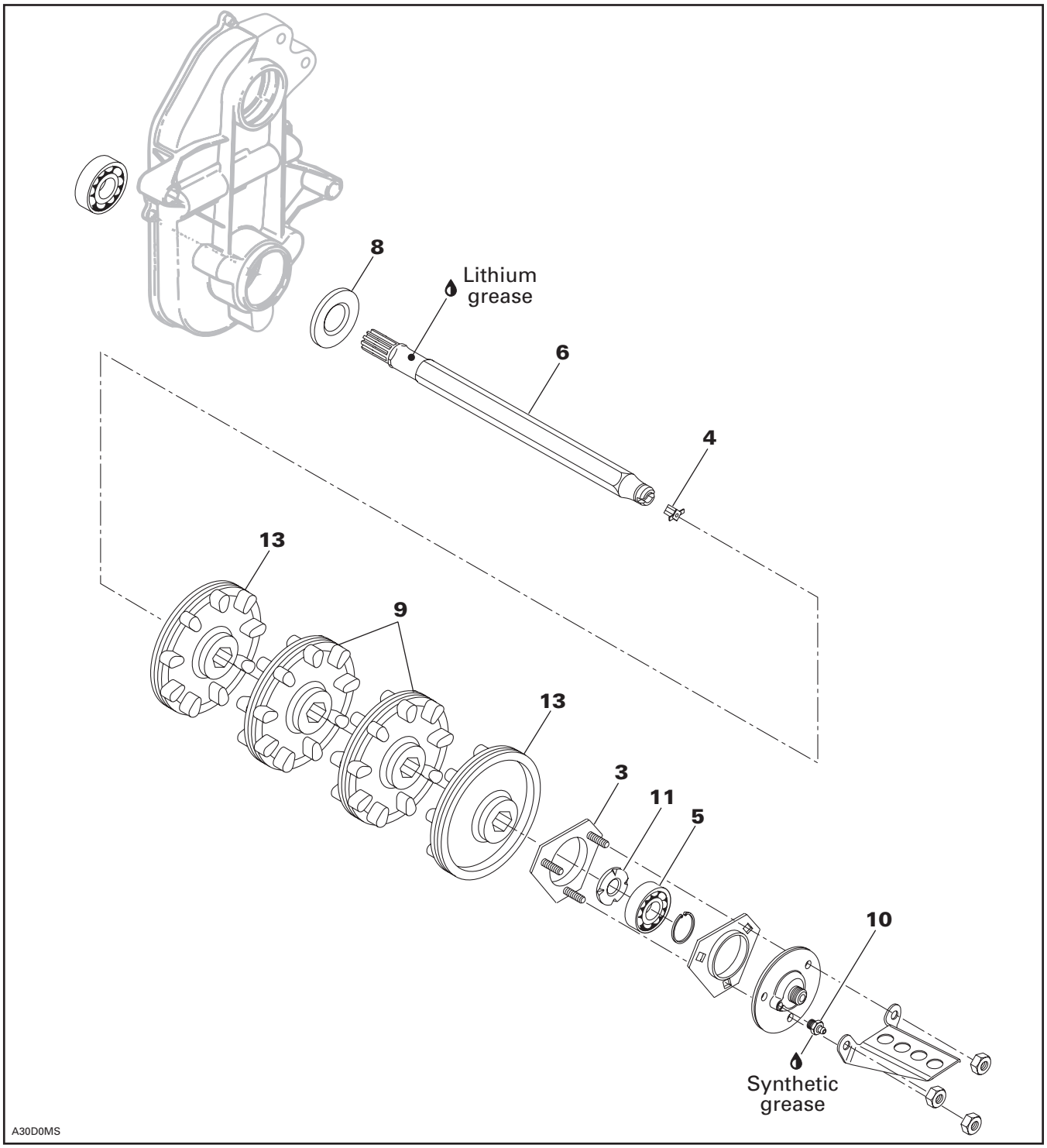
LUBRICATION

Lubricate front and rear arms at grease fittings using synthetic grease (P/N 413 711 500).



SC-10 II: 5 GREASE FITTINGS

DRIVE AXLE



REMOVAL

Drain oil from chaincase. Release drive chain tension. Remove chaincase cover.

Raise and block rear of vehicle off the ground.

Remove suspension. Refer to SC-10 SUSPENSION.

2,8, End Bearing Housing and Seal

Remove outer flange cover of bearing housing.

Remove chain and sprocket then circlip and bearing from drive axle.

Pry oil seal from chaincase.

6,9,13, Drive Axle and Sprocket

Release drive axle sprocket from track and at the same time, pull the drive axle toward the end bearing housing side.

Remove drive axle from vehicle.

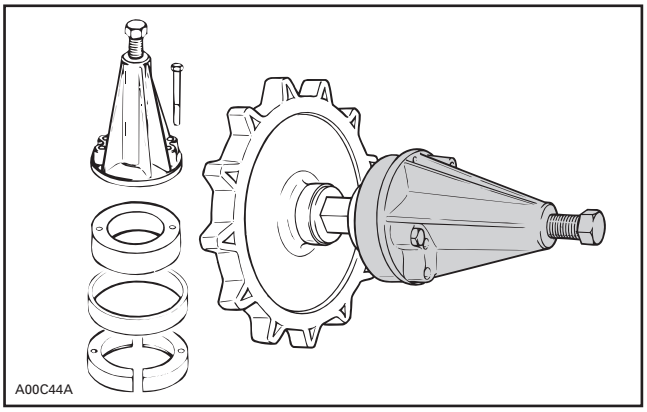
DISASSEMBLY

4, Speedometer Drive Insert

Remove speedometer drive insert.

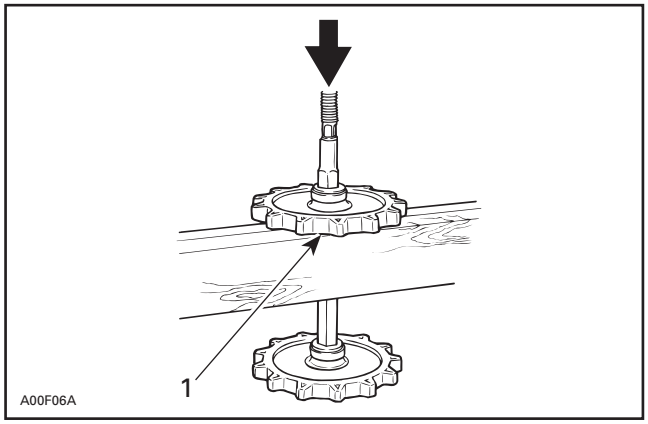
5,12, Bearing

To remove bearings, use puller assembly, ring and half rings as illustrated.



9,13, Sprocket and Half-Sprocket

To remove press fit sprockets, use a press and a suitable support as illustrated.



TYPICAL

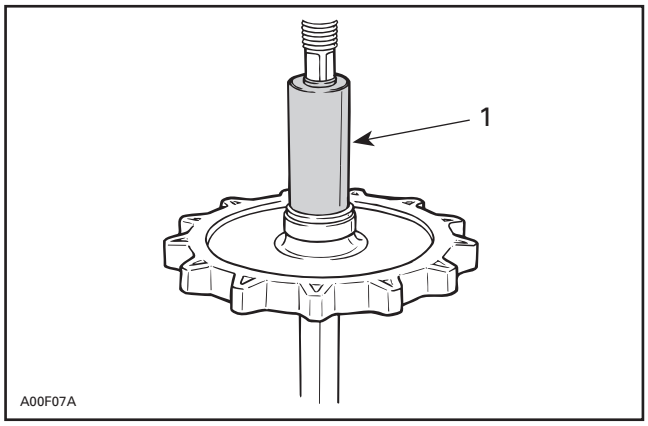
1. Support sprocket near hub

NOTE: Two different types of sprocket press fit can be found. Ensure to replace ring reinforced sprockets with the same type.

ASSEMBLY

8,9,13, Drive Axle and Sprocket

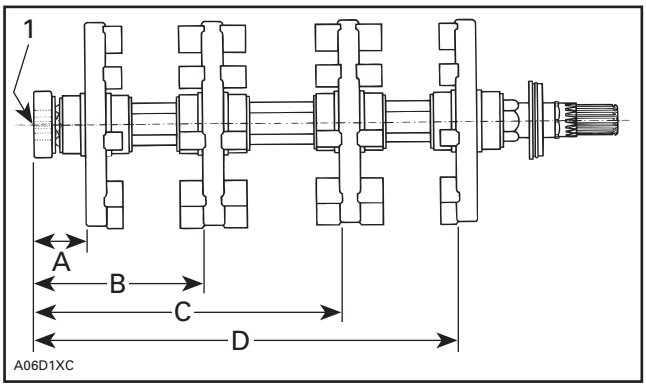
To assemble press fit sprockets, use a press and a suitable pipe as illustrated. Sprockets must be assembled according to the following dimensions.



TYPICAL

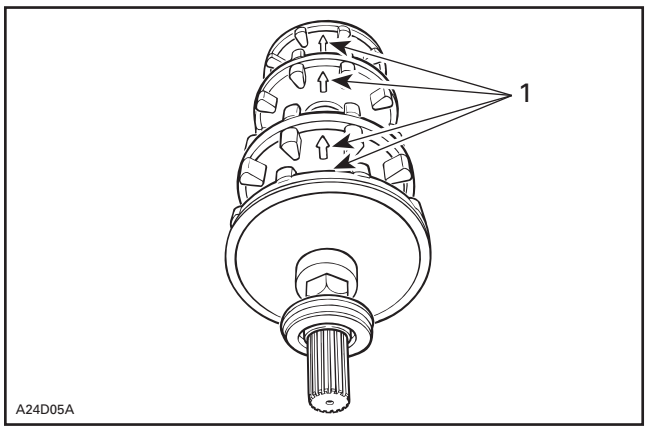
1. Pipe

CK3 Series



1. Measure from end of drive axle
A. 49 mm (1.929 in)
B. 151.2 mm (5.953 in)
C. 274.2 mm (10.795 in)
D. 376.3 mm (14.815 in)

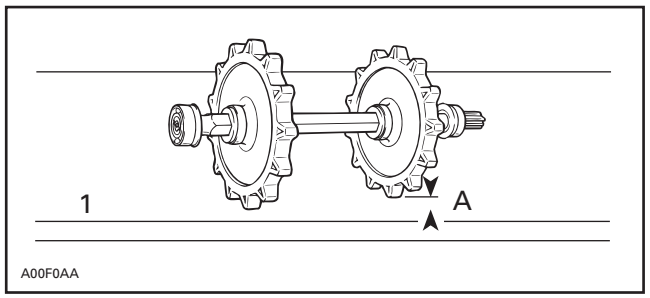
Ensure to align indexing marks of each sprocket when assembling.



TYPICAL
1. Indexing marks aligned

The maximum desynchronization for the sprockets is 1.5 mm (1/16 in).

To check this tolerance, place axle assembly on a plane surface and measure the gap between sprocket tooth and surface.



1. Plane surface
A. 1.5 mm (1/16 in) MAXIMUM

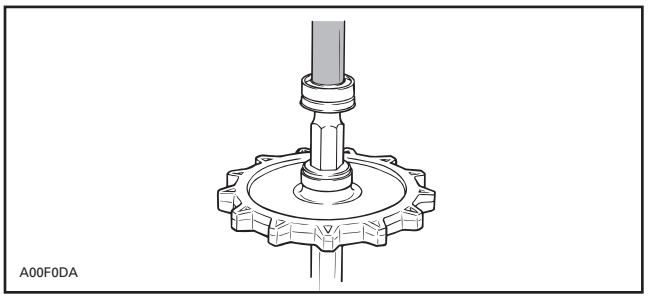
CAUTION: The same sprocket must not be pressed twice on the axle. If synchronization is found to be defective, use a new sprocket.

11, Bearing Protector

At assembly, flat side of bearing protector must be against bearing.

5,12, Bearing

Always push bearing by inner race.



The bearing on the splined side of axle must be pushed until it is seated on shaft shoulder. Each bearing must have its shield facing the sprocket.

LUBRICATION

15, Grease Fitting

Lubricate end housing bearing with synthetic grease (P/N 413 711 500).

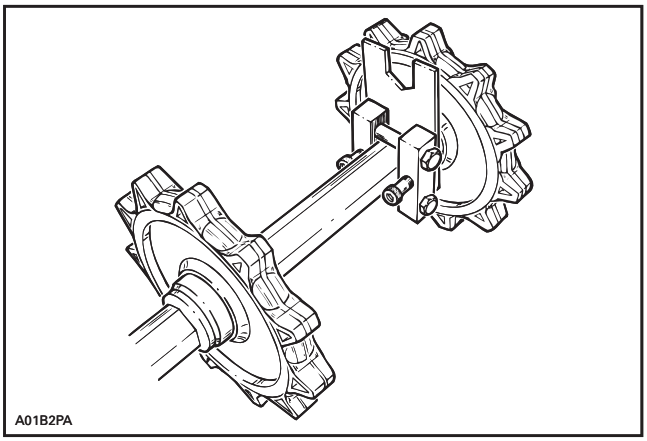
ADJUSTMENT

Sprocket/Track Alignment

CAUTION: Do not temper with sprocket/track alignment if frame or suspension is damaged.

Sprockets might be repositioned to fit lugs without removing drive axle.

Use drive axle sprocket adjuster kit (P/N 861 725 700).



TYPICAL

TRACK

TRACK TYPE APPLICATION

Refer to TECHNICAL DATA.

GENERAL

This section gives guidelines for track removal. Some components require more detailed disassembly procedures. In these particular cases, refer to the pertaining section in this manual.

INSPECTION

Visually inspect track for:

– cuts and abnormal wear
– broken rods
– broken or missing track cleats.

If track is damaged or rods are broken, replace track. For damaged or missing cleats, replace by new ones, using cleat remover (P/N 529 028 700). Use narrow-cleat installer (P/N 529 008 500).

⚠ WARNING

Do not operate a snowmobile with a cut, torn or damaged track.

REMOVAL

Remove the following parts:

– speedometer cable
– muffler
– chaincase cover
– suspension
– drive axle seal
– end bearing housing
– sprockets and chain
– drive axle (toward end bearing housing)
– track.

INSTALLATION

Reverse the removal procedure.

NOTE: When installing the track, respect rotation direction indicated by an arrow on track thread.

Check sprocket/track alignment as described in DRIVE AXLE.

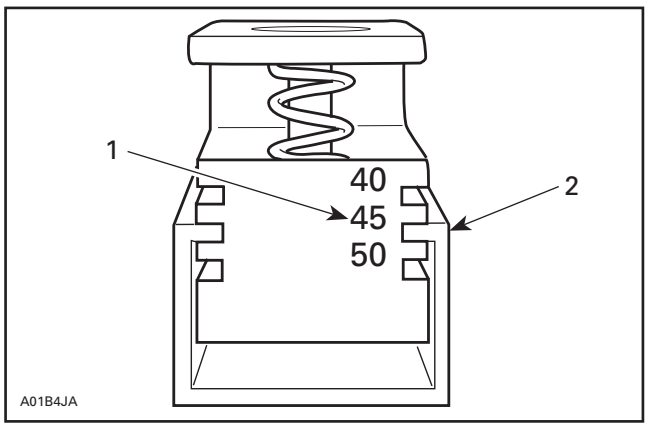
Track Tension and Alignment

Track tension and alignment are inter-related. Do not adjust one without checking the other. Track tension procedure must be carried out prior to track alignment.

Tension

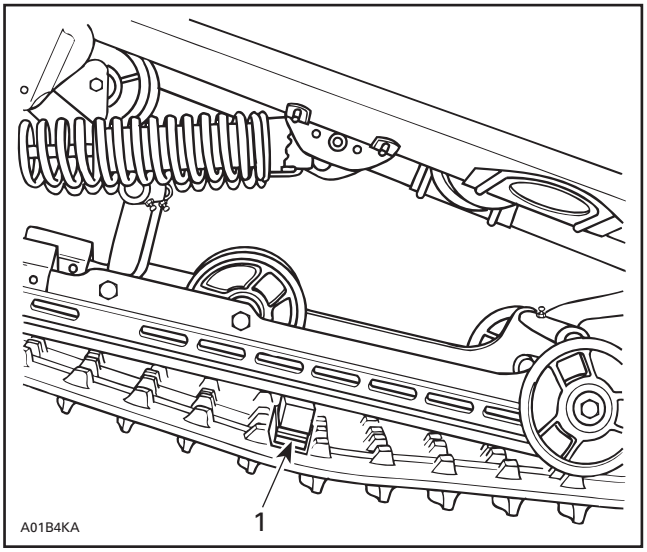
Lift the rear of vehicle and support with a mechanical stand. Allow the slide to extend normally. Check the gap half-way between front and rear idler wheels. Measure between slider shoe and bottom inside of track.

When using the track tension gauge (P/N 529 021 500), slide U-shape extrusion to proper deflection.



1. Example: 45 mm
2. Extrusion

Insert pre-setted gauge between slider shoe and track. Allow gauge to settle by forcing track up and down. Track tension is as specified when edge of gauge reaches line.



TYPICAL
1. Line

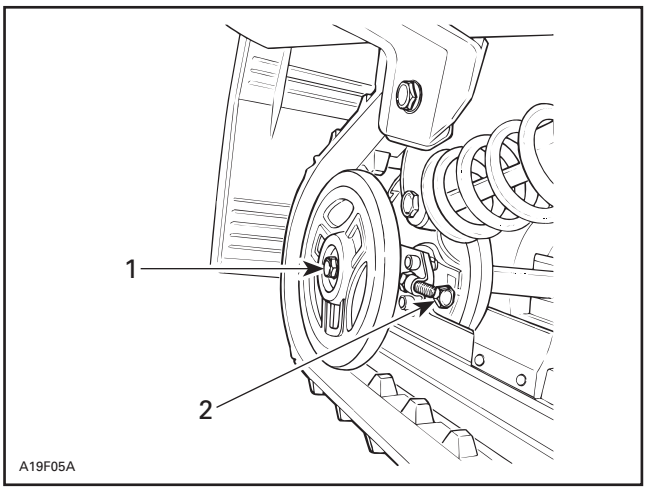
NOTE: Lightly oil track tension gauge center pin to avoid sticking.

All Models

Refer to TECHNICAL DATA for proper tension values.

CAUTION: Too much tension will result in excessive stress on suspension components. If too loose, the track will have a tendency to thump.

To adjust, loosen the rear idler wheel retaining screws then loosen or tighten the adjuster bolts located on the inner side of the rear idler wheels.



TYPICAL
1. Retaining screw
2. Adjuster bolt

Alignment

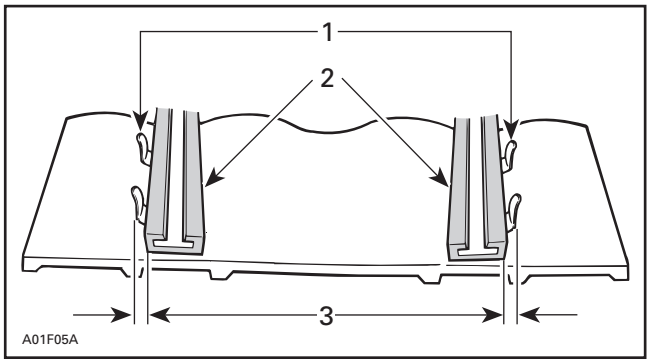
⚠ WARNING

Before checking track tension, ensure that the track is free of all particles which could be thrown out while it is rotating. Keep hands, tools, feet and clothing clear of track. Ensure no one is standing in close proximity to the vehicle.

All Models

With rear of vehicle supported off the ground, start engine and allow the track to rotate **slowly**.

Check that the track is well centered; equal distance on both sides between edges of track guides and slider shoes.

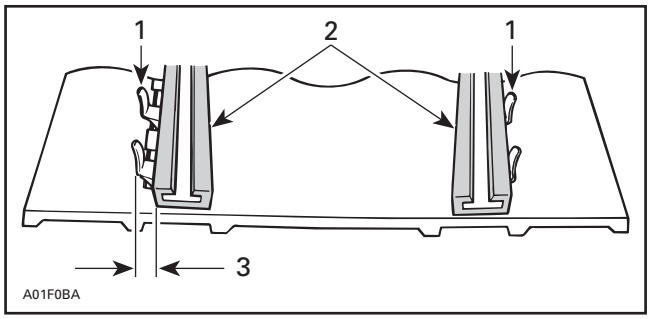


1. Guides
2. Slider shoes
3. Equal distance

⚠ WARNING

Before checking track alignment, ensure that the track is free of all particles which could be thrown out while track is rotating. Keep hands, tools, feet and clothing clear of track.

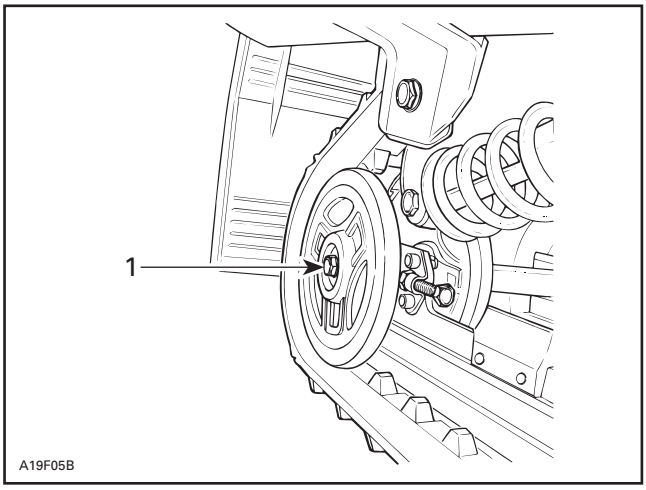
To correct, stop engine then tighten the adjuster bolt on side where guides are farthest to slide. Recheck alignment.



1. Guides
2. Slider shoes
3. Tighten on this side

NOTE: Torque retaining screw to 48 N•m (35 lbf•ft) after adjustment.

Tighten the idler wheel retaining screws.



TYPICAL

1. Retighten

Restart engine, rotate track **slowly** and recheck alignment.

Track Cleat

Removal

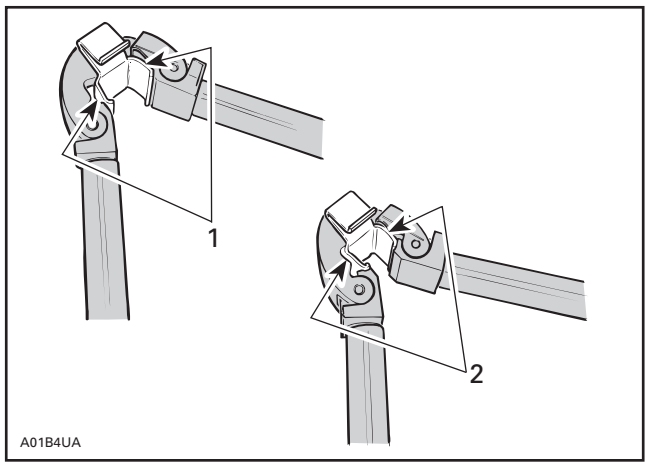
– Raise rear of vehicle off the ground and lift snowguard then rotate track to expose a cleat to be replaced.

– Using track cleat remover (P/N 529 028 700) for all models.

Installation

NOTE: Keep the same pitch between guide cleats.

– Place new cleat in position and using narrow track cleat installer (P/N 529 008 500) bend cleat then push tabs into rubber.



TYPICAL

1. First step
2. Second step (to push tabs into rubber)