

TABLE OF CONTENTS

SC-10 SUSPENSION	07-02-1
SUSPENSION ASS'Y REMOVAL	07-02-2
DISASSEMBLY AND ASSEMBLY	07-02-2
SHOCK ABSORBER INSPECTION	07-02-4
INSTALLATION	07-02-4
RIDE ADJUSTMENT	07-02-5
LUBRICATION	07-02-5

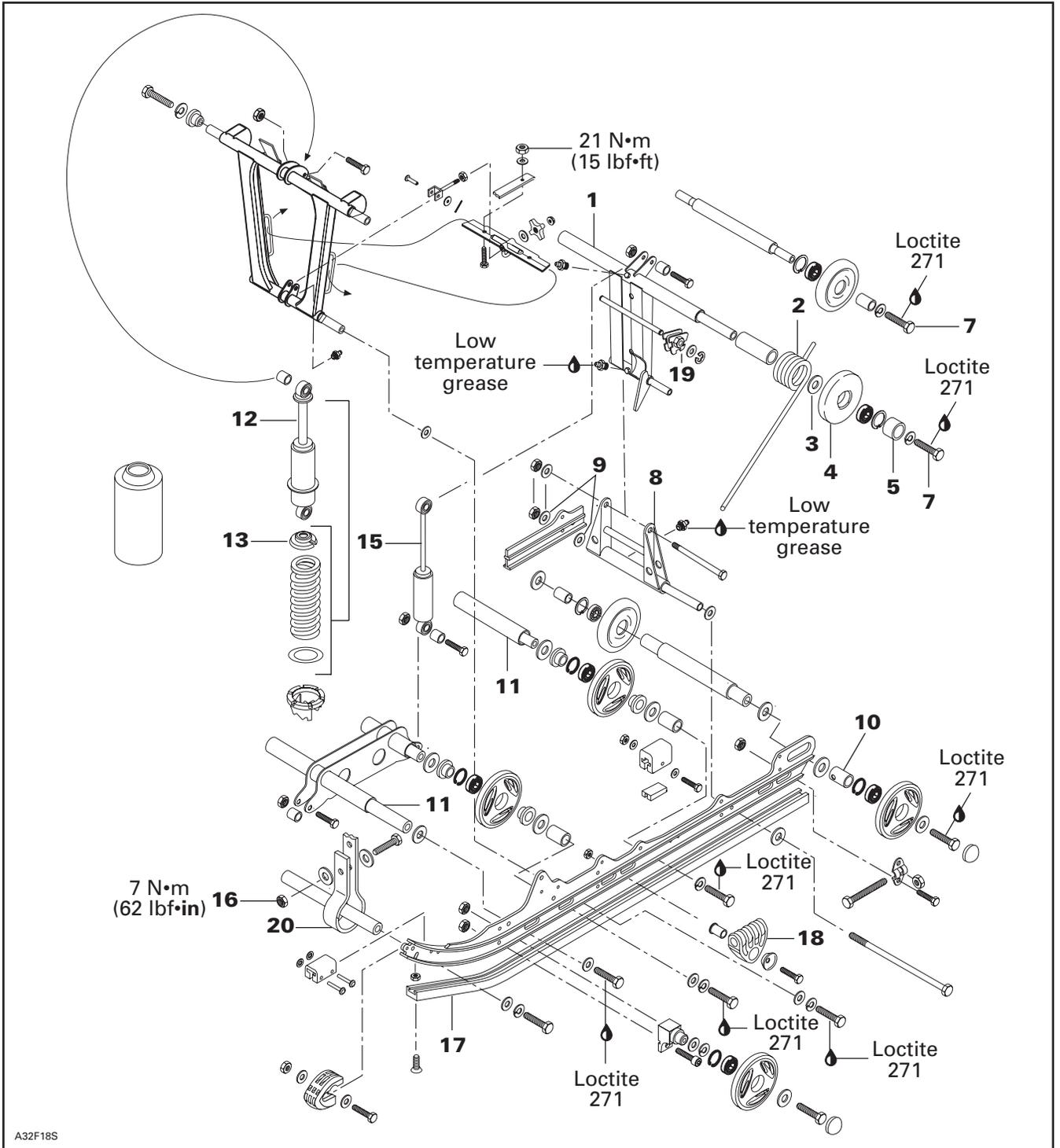
SC-10 II SUSPENSION	07-03-1
SUSPENSION ASS'Y REMOVAL	07-03-4
DISASSEMBLY AND ASSEMBLY	07-03-5
SHOCK ABSORBER INSPECTION	07-03-7
INSTALLATION	07-03-7
RIDE ADJUSTMENT	07-03-7
LUBRICATION	07-03-7

DRIVE AXLE	07-04-1
REMOVAL	07-04-2
DISASSEMBLY	07-04-2
ASSEMBLY	07-04-3
LUBRICATION	07-04-4
ADJUSTMENT	07-04-4

TRACK	07-05-1
TRACK TYPE APPLICATION	07-05-1
GENERAL	07-05-1
INSPECTION	07-05-1
REMOVAL	07-05-1
INSTALLATION	07-05-1

SC-10 SUSPENSION

SC-10 Mountain on Summit 600/700/700 H.M.



Section 07 REAR SUSPENSION

Subsection 02 (SC-10 SUSPENSION)

SUSPENSION ASS'Y REMOVAL

19, Cam

Decrease spring preload by turning cams accordingly.

Lift rear of vehicle and support it off the ground.
Loosen track tension.

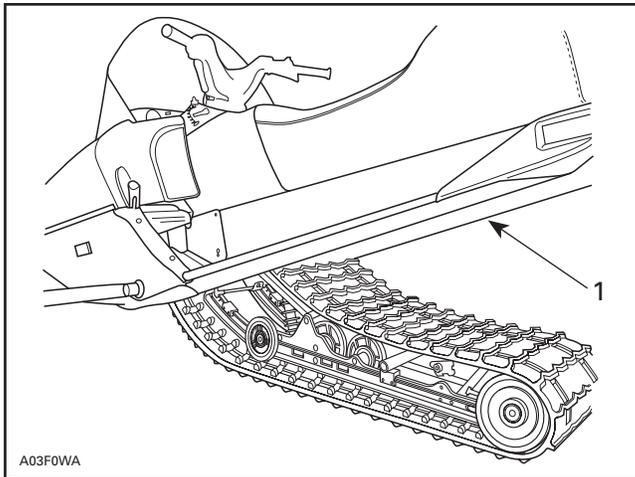
Remove rear arm top axle screws **no. 7** from chassis.

NOTE: To prevent axle from turning when unscrewing screws assembled with threadlocker, proceed as follows:

- Knock on screw head and/or heat to break threadlocker bond.
- Loosen one screw then retighten.
- Remove the opposite screw.
- Remove the first one.

Unscrew center idler wheel axle from tunnel then remove.

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



TYPICAL

1. At least 1 m (3 ft)

Remove both screws **no. 6** retaining front arm to tunnel.

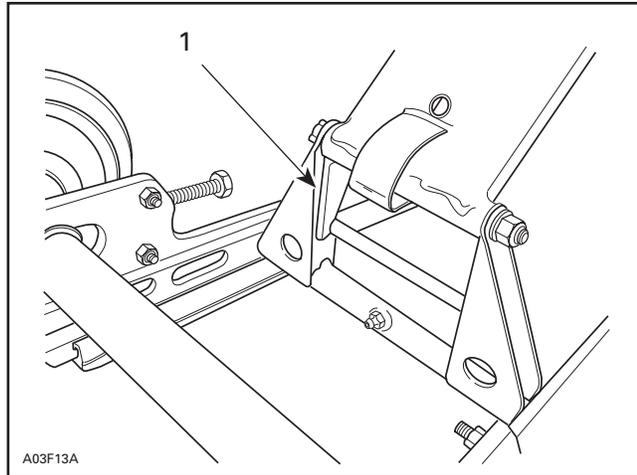
Remove suspension.

DISASSEMBLY AND ASSEMBLY

Inspect track thoroughly before reinstalling suspension. Refer to TRACK 07-05.

1, Rear Arm

At installation, rear arm stroke limiter must be on rear side.



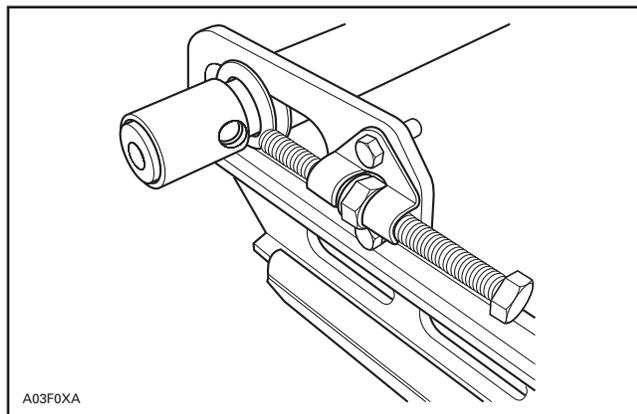
1. Stroke limiter on rear side

8,9, Shackle Arm and Flat Washer

At installation shackle arm grease fitting must face rearward.

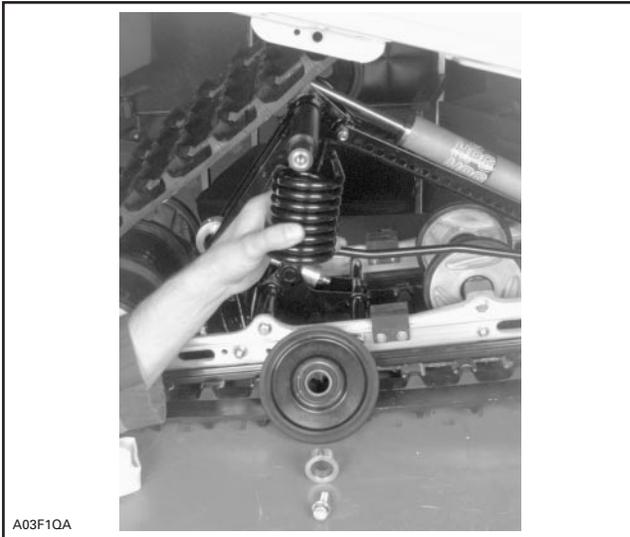
10, Outer Bushing

At installation, hole must face adjustment screw.



TYPICAL

4, Top Idler Wheel



A03F10A

TYPICAL

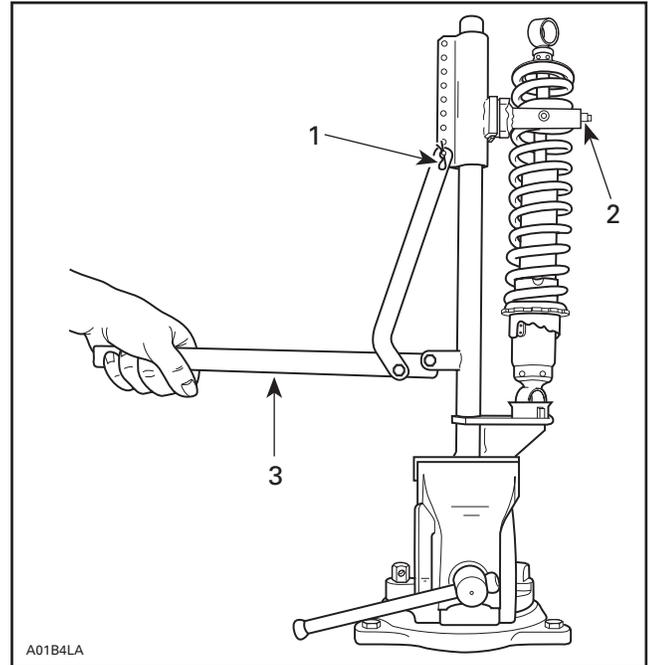
At reassembly, respect THIS SIDE OUT inscription on wheel.

12,13, 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 spring coils matched spring compressor.

Close and lock bar. Adjust handle horizontal by changing position of clevis pin.

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



A01B4LA

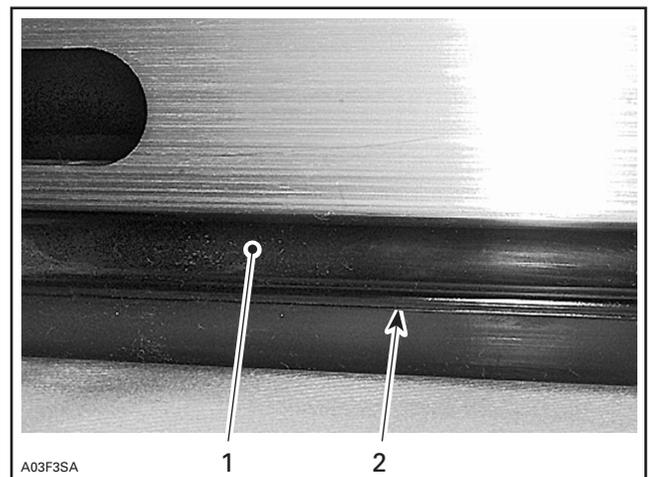
1. Clevis pin
2. Bar
3. Handle horizontal

20, Stopper Strap

Inspect strap for wear or cracks, bolt and nut for tightness. If loose, inspect hole for deformation. Replace as required. Torque nuts as per exploded view.

17, Slider Shoe

Molding line is the wear limit indicator.



A03F3SA

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

Section 07 REAR SUSPENSION

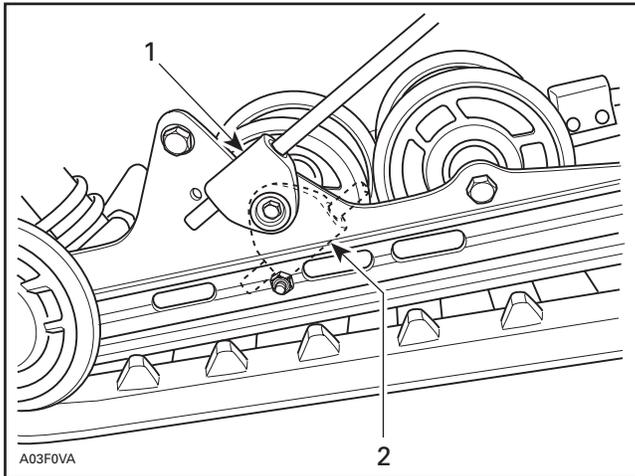
Subsection 02 (SC-10 SUSPENSION)

Replace slider shoes when wear limit is reached.

CAUTION: Slider shoes must always be replaced in pairs.

18, Spring Support

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



RIGHT SIDE SHOWN

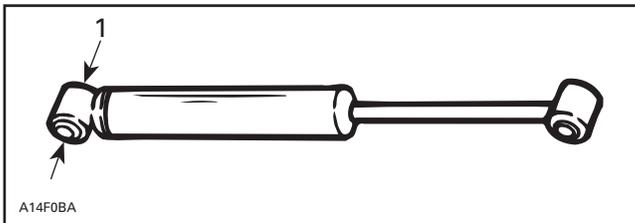
1. Right position: upward
2. Wrong position

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 painted.

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.

If suspecting a frozen gas 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, compare to a new shock. If shock is frozen it will be much more difficult to compress than for the new one.

INSTALLATION

Install assembled suspension into track with front portion first.

Insert rear portion of suspension into track.

Bolt front arm, rear arm then center top idler wheel axle.

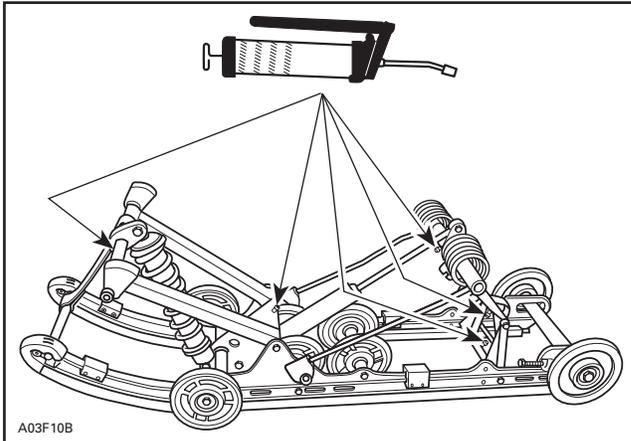
Adjust track tension.

RIDE ADJUSTMENT

Refer to *Operator's Guide*.

LUBRICATION

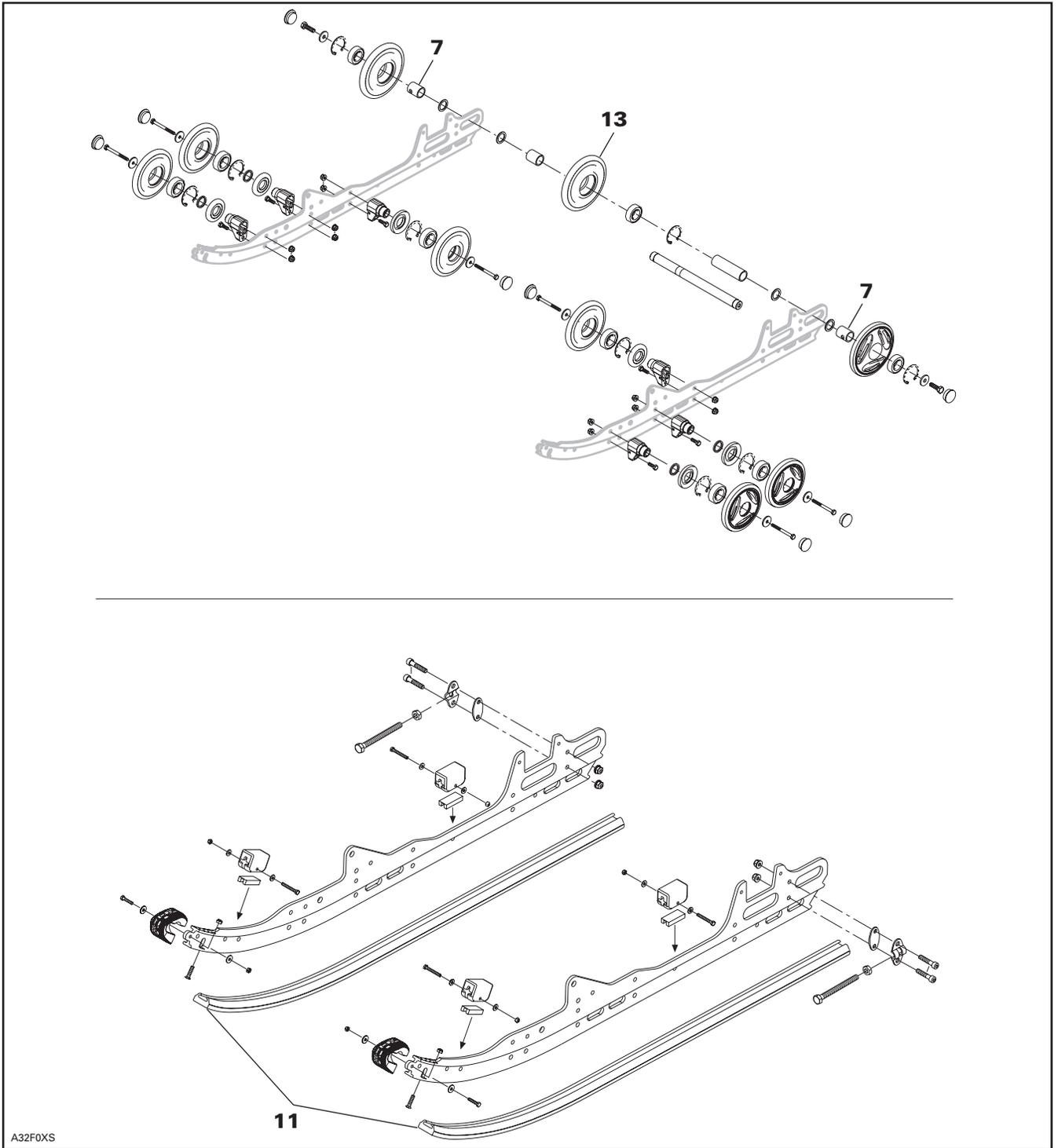
Lubricate front and rear arms at grease fittings using synthetic grease (P/N 413 711 500).



SC-10 MOUNTAIN: 5 GREASE FITTINGS

SC-10 II SUSPENSION

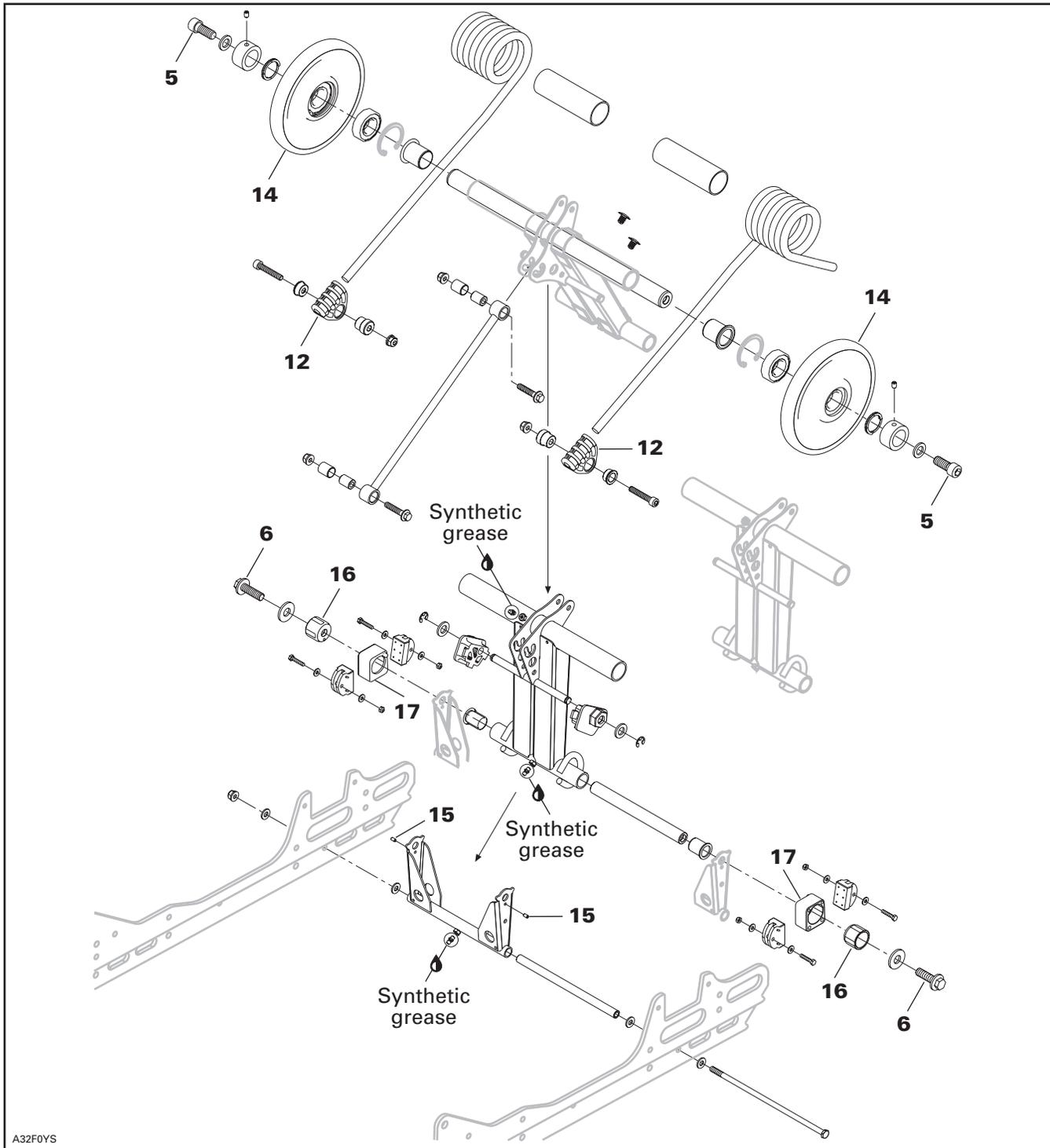
SC-10 II on All Short Track ZX Series Models



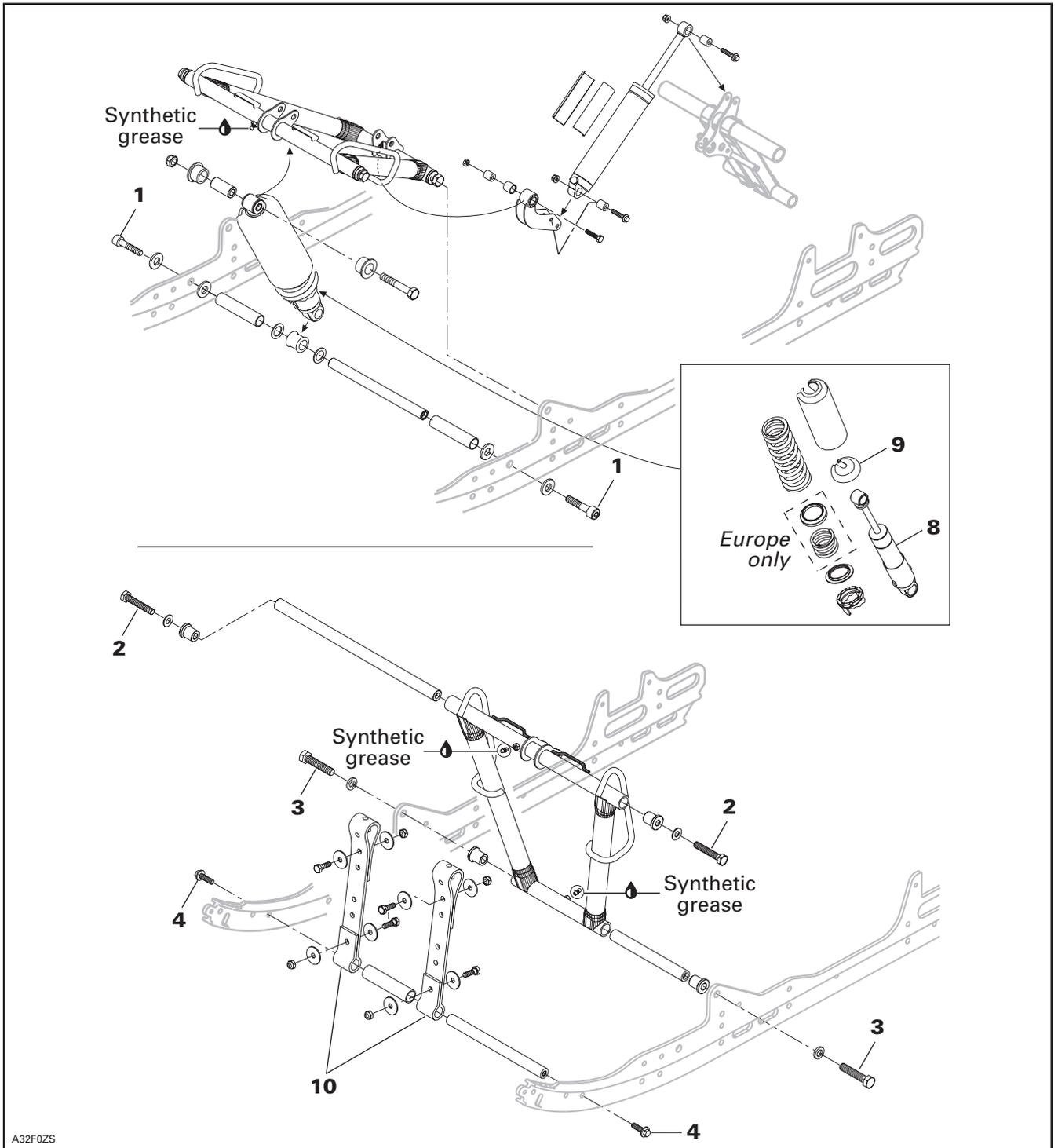
A32F0XS

Section 07 REAR SUSPENSION

Subsection 03 (SC-10 II SUSPENSION)



Section 07 REAR SUSPENSION
Subsection 03 (SC-10 II SUSPENSION)



A32F0ZS

Section 07 REAR SUSPENSION

Subsection 03 (SC-10 II SUSPENSION)

SUSPENSION ASS'Y REMOVAL

19, Cam

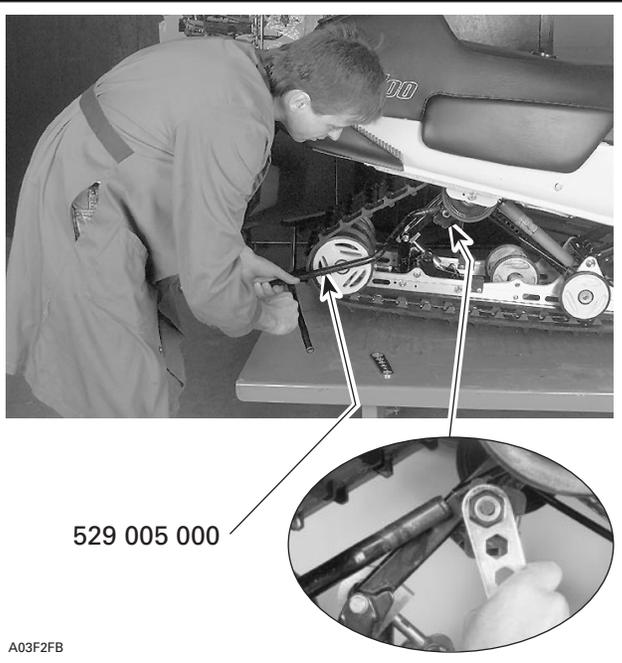
Decrease spring preload by turning cams accordingly.

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

- Remove one self-locking screw then install a 10 mm shorter non-self-locking one in place.
- Remove the opposite self-locking screw.
- Remove the temporary installed non-self-locking screw.

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

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



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:

- Knock on screw head and/or heat to break threadlocker bond.

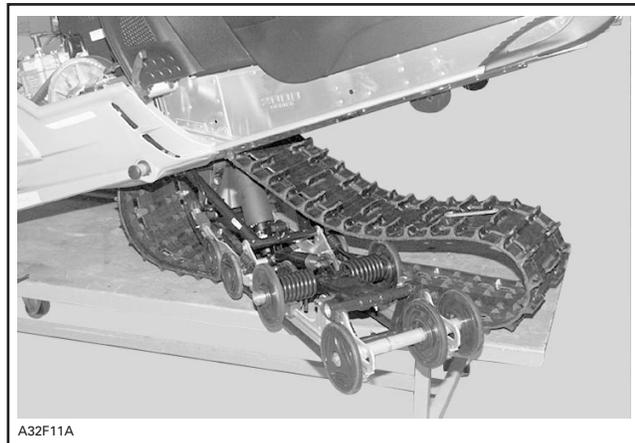


TYPICAL

A. At least 1 m (3 ft)

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

Remove suspension.



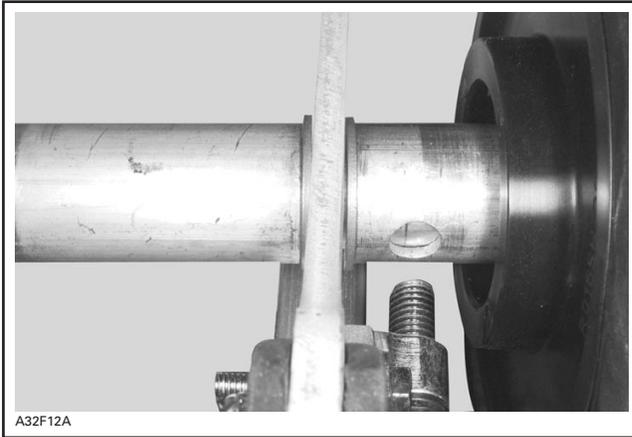
Section 07 REAR SUSPENSION
Subsection 03 (SC-10 II SUSPENSION)

DISASSEMBLY AND ASSEMBLY

Inspect track thoroughly before reinstalling suspension. Refer to TRACK 07-05.

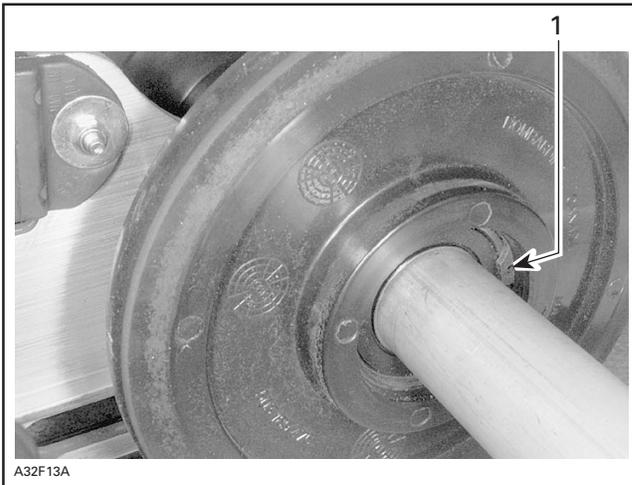
7, Outer Bushing

At installation, hole must face adjustment screw.



13,14, Center Rear Wheel and Top Idler Wheels

At installation, circlip must face inner side.

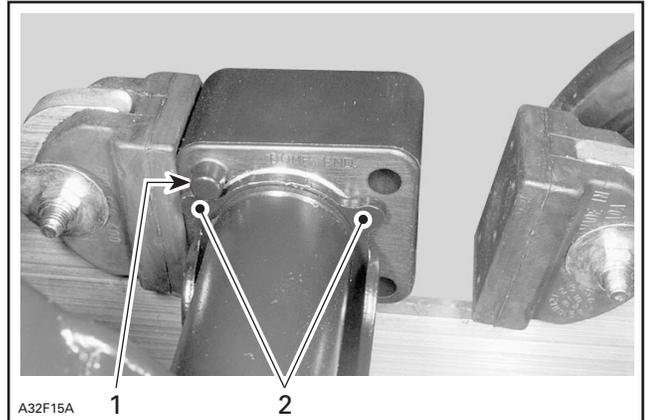


1. Circlip facing inner side

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.

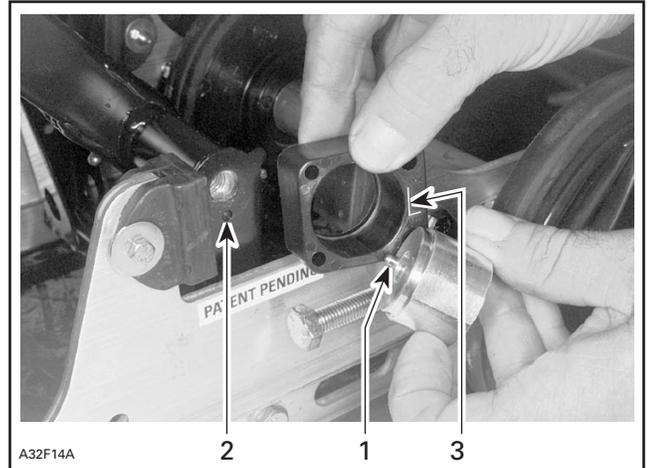


1. Protrusion
2. Stoppers

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

Section 07 REAR SUSPENSION

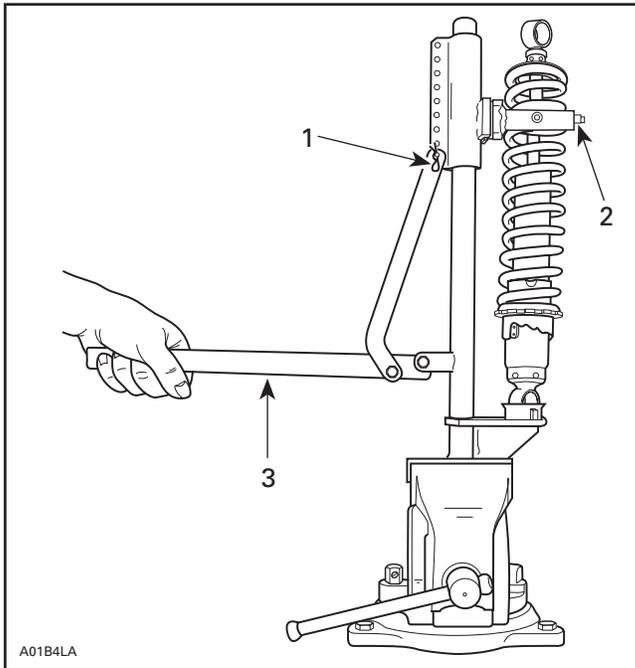
Subsection 03 (SC-10 II SUSPENSION)

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 spring coils matched spring compressor.

Close and lock bar. Adjust handle horizontal by changing position of clevis pin.

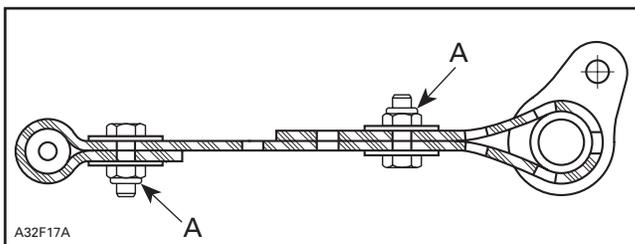
Push down on handle until it locks. Remove spring stopper then release handle.



1. Clevis pin
2. Bar
3. Handle horizontal

10, Stopper Strap

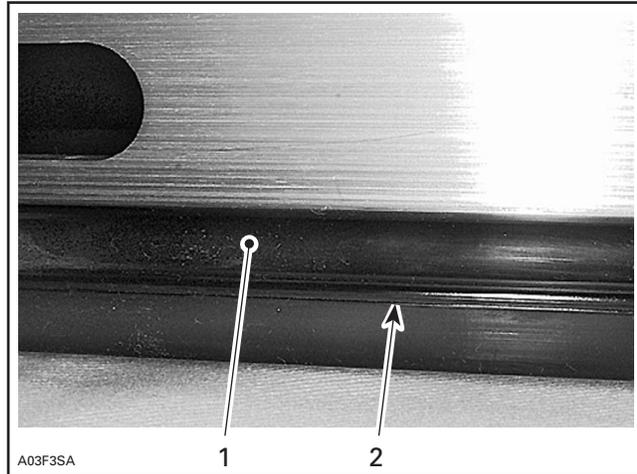
Inspect strap for wear or cracks, bolt and nut for tightness. If loose, inspect hole for deformation. Replace as required. Make sure it is attached through proper holes. Torque nut to 7 N•m (62 lbf•in).



- A. 7 N•m (62 lbf•in)

11, Slider Shoe

Molding line is the wear limit indicator.



TYPICAL

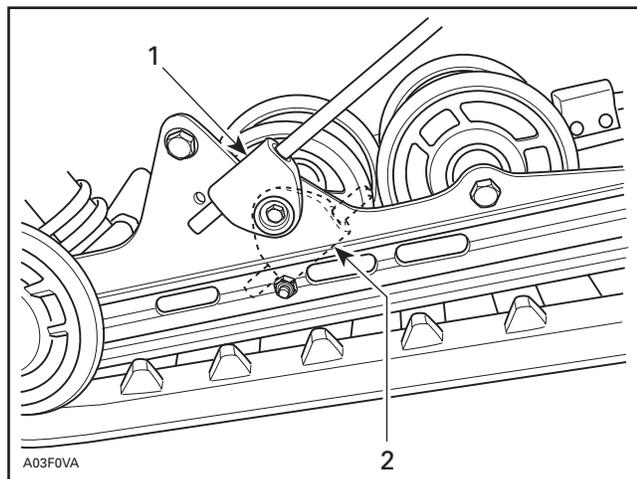
1. Slider shoe
2. Molding line (wear limit indicator)

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

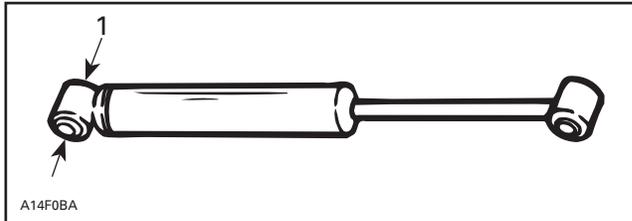
1. Right position: upward
2. Wrong position

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 painted.

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.

If suspecting a frozen gas 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, compare to a new shock. If shock is frozen it will be much more difficult to compress than for the new one.

INSTALLATION

Install assembled suspension into track with front portion first.

Insert rear portion of suspension into track.

Bolt front arm and rear arm.

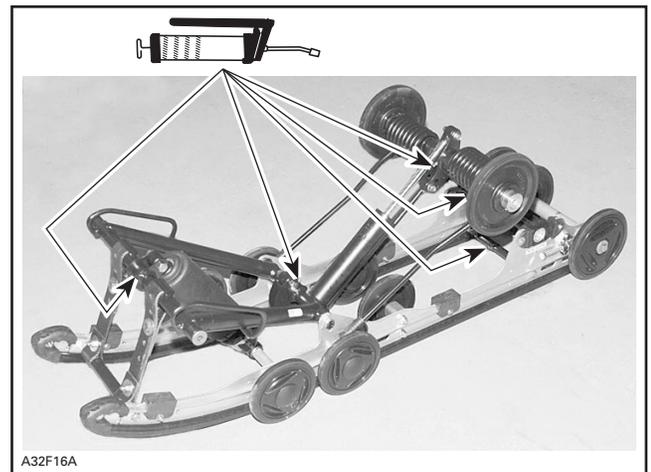
Adjust track tension.

RIDE ADJUSTMENT

Refer to *Operator's Guide*.

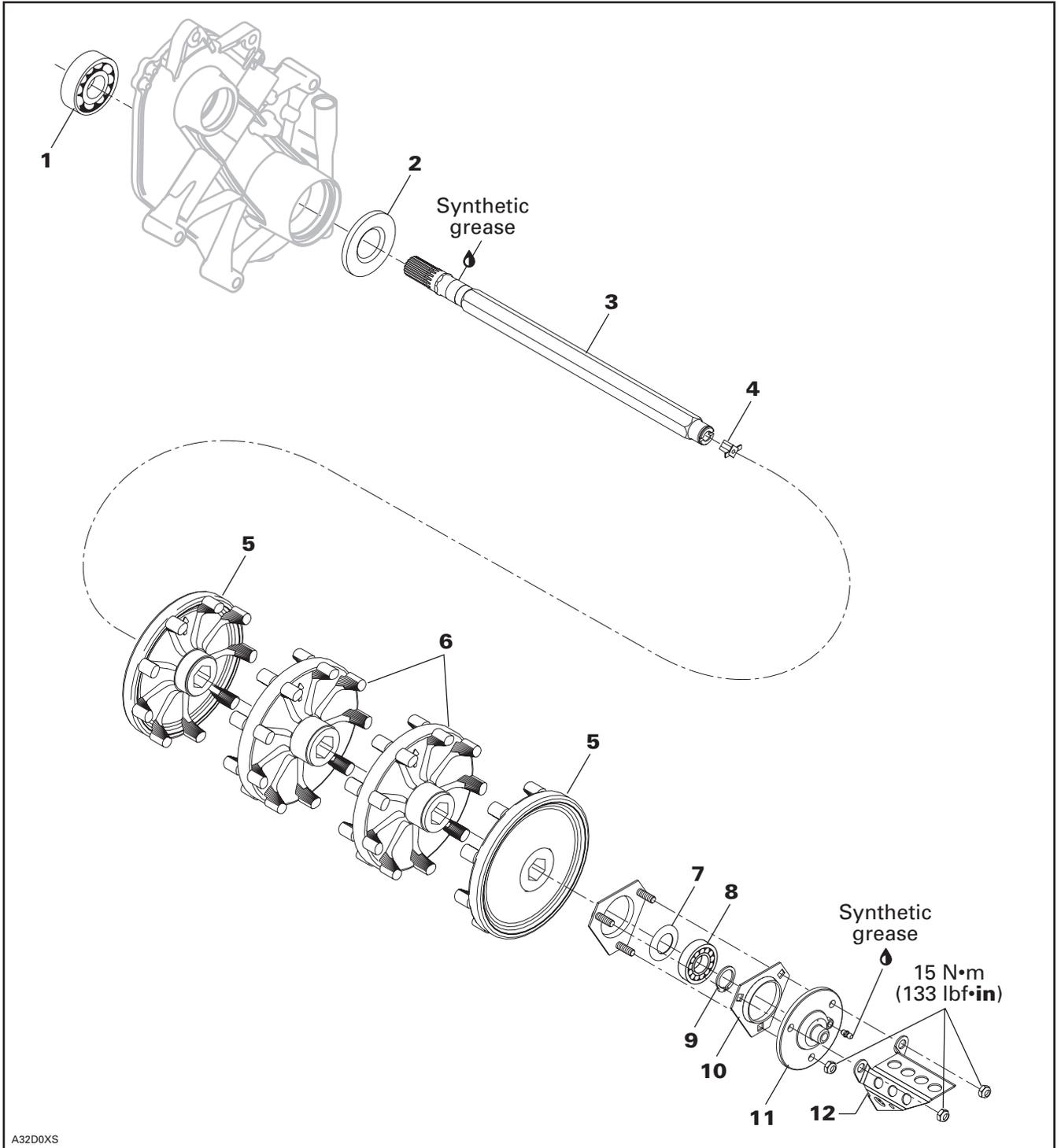
LUBRICATION

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



SC-10 II: 5 GREASE FITTINGS

DRIVE AXLE



Section 07 REAR SUSPENSION

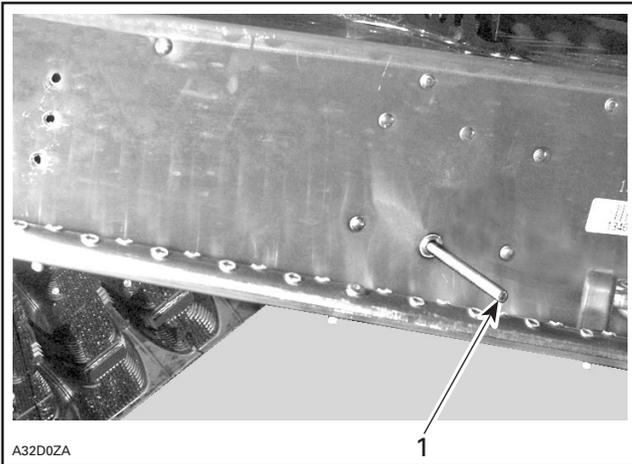
Subsection 04 (DRIVE AXLE)

REMOVAL

According to model, drain oil from chaincase or gearbox. Remove chaincase or gearbox cover. Release drive chain tension.

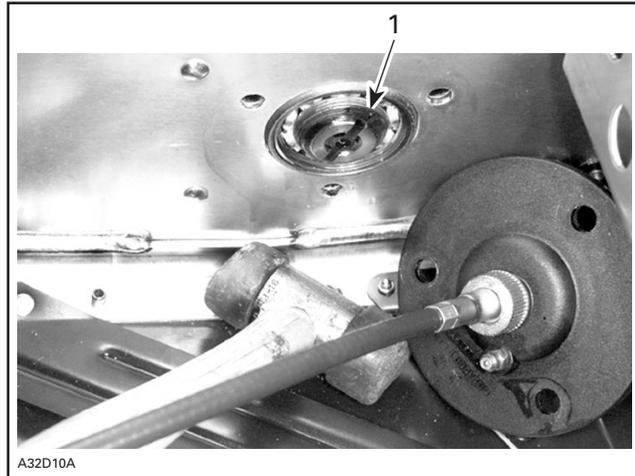


Raise and block rear of vehicle off the ground. Remove suspension. Refer to proper subsection. Track can be held in tunnel using a rod in place of center idler wheel axle.



1. Rod

Remove cable protector no. 12, plastic cover no. 11, outer flange no. 10 and circlip no. 9 from left side.



1. Circlip

Apply parking brake.

Remove chain and sprockets then circlip from right side.

Release drive axle sprocket from track and at the same time, push the drive axle no. 3 toward the right side. Drive axle bearing no. 1 in chaincase or gearbox will fall off.

Pull drive axle toward left side and remove it from vehicle.

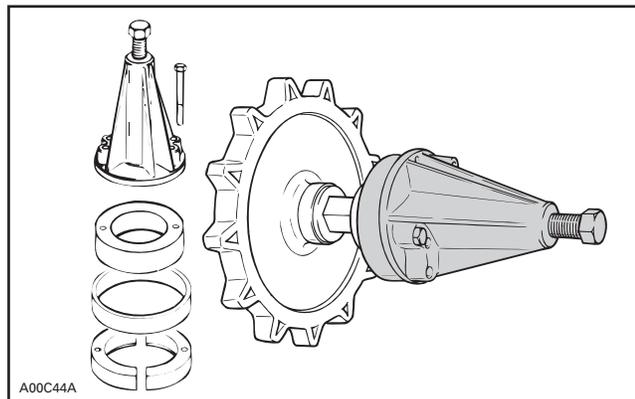
DISASSEMBLY

4, Speedometer Drive Insert

Remove speedometer drive insert.

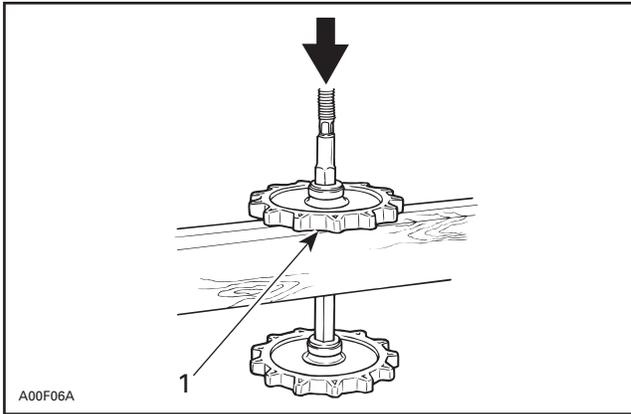
8, Bearing

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



5,6, Sprocket and Half-Sprocket

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



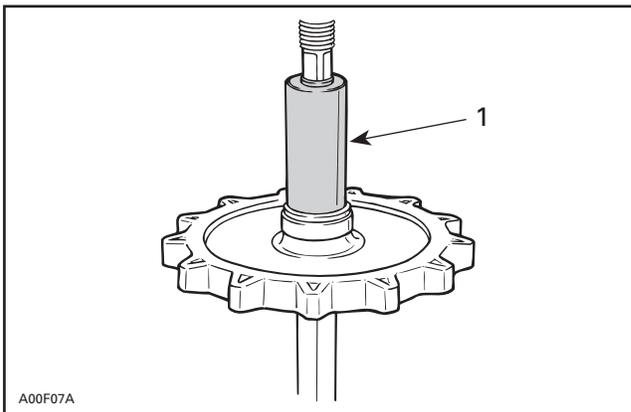
TYPICAL

1. Support sprocket near hub

ASSEMBLY

3,5,6, Drive Axle and Sprocket

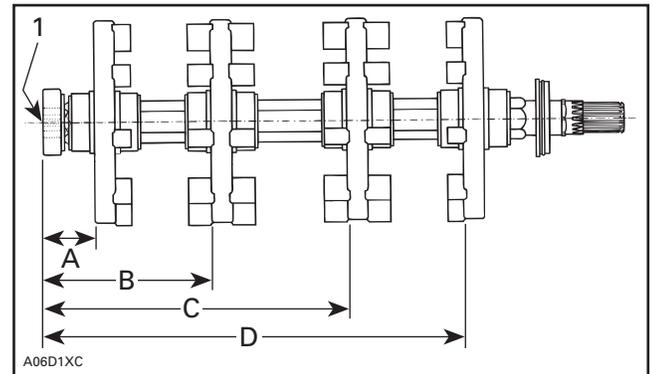
To assemble press fit sprockets, use a press and a suitable pipe as illustrated. Sprockets must be assembled according to the following dimensions.



TYPICAL

1. Pipe

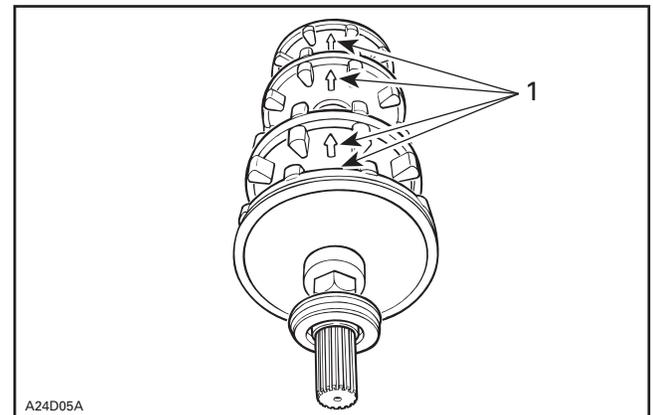
ZX Series



1. Measure from end of drive axle

- A. 47.3 mm (1.862 in)
- B. 149.8 mm (5.898 in)
- C. 272.8 mm (10.740 in)
- D. 375.3 mm (14.776 in)

Ensure to align indexing marks of each sprocket when assembling.

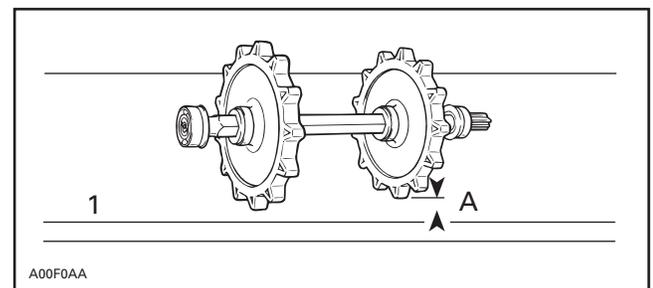


TYPICAL

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.



TYPICAL

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

Section 07 REAR SUSPENSION

Subsection 04 (DRIVE AXLE)

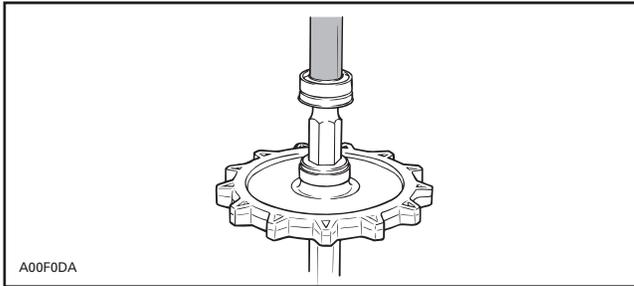
CAUTION: The same sprocket must not be pressed twice on the axle. If synchronization is found to be defective, use a new sprocket.

7, Bearing Protector

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

8, Bearing

Always push bearing by inner race.



The bearing no. 8 must have its shield facing the sprocket.

The bearing no. 1 must have its shield facing right side (cover).

LUBRICATION

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

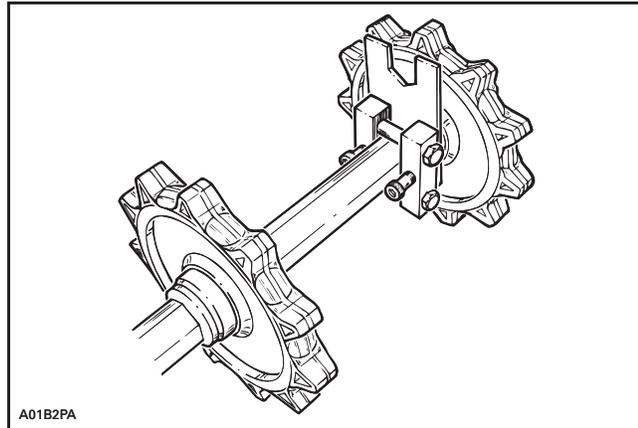
ADJUSTMENT

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 section 10.

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 or gearbox cover
- suspension
- drive axle seal
- end bearing housing
- sprockets and chain
- drive axle
- 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 07-04.

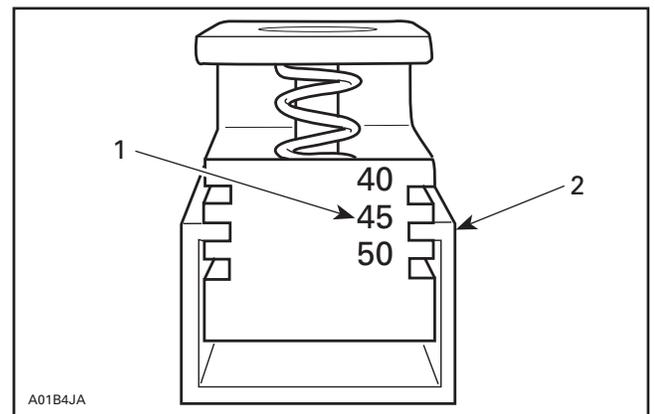
Track Tension and Alignment

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.

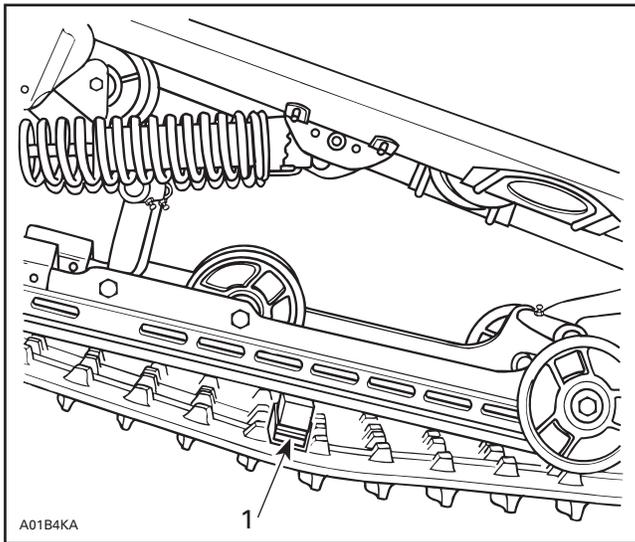


1. Example: 45 mm
2. Extrusion

Insert pre-settled 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.

Section 07 REAR SUSPENSION

Subsection 05 (TRACK)



TYPICAL

1. Line

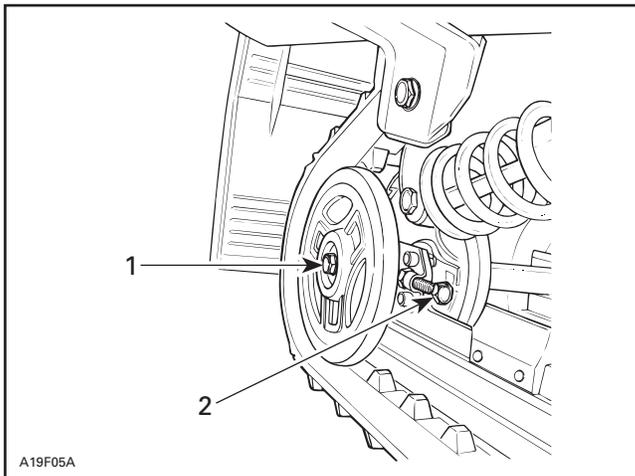
NOTE: Lightly oil track tension gauge center pin to avoid sticking.

All Models

Refer to TECHNICAL DATA 10 for proper tension values.

CAUTION: Too much tension will result in power loss and 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

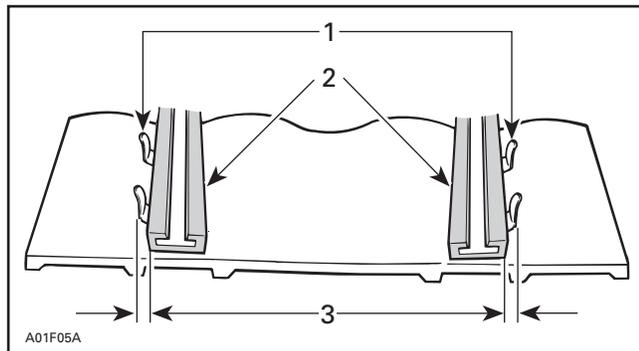
⚠ WARNING

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

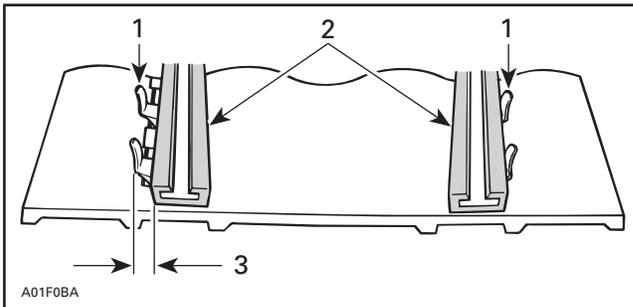
⚠ WARNING

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. Re-check alignment.

Section 07 REAR SUSPENSION

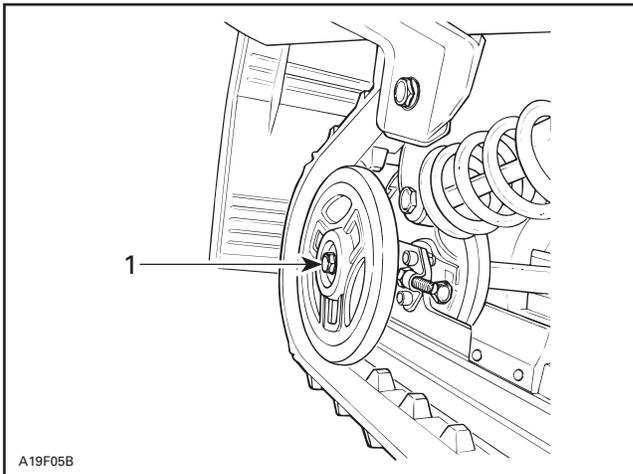
Subsection 05 (TRACK)



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

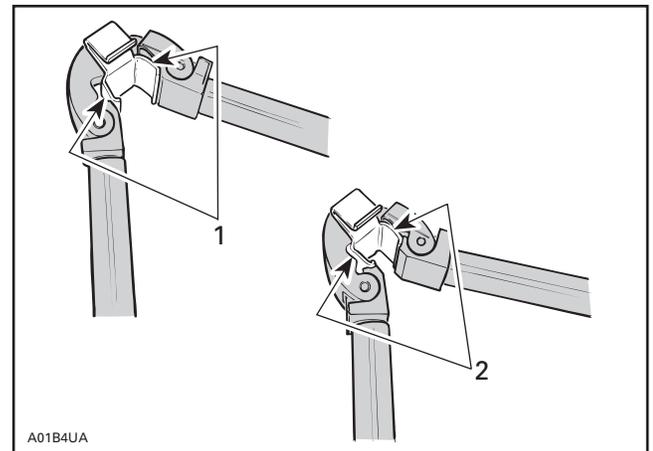
Removal

- Raise rear of vehicle off the ground and lift snow-guard 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)