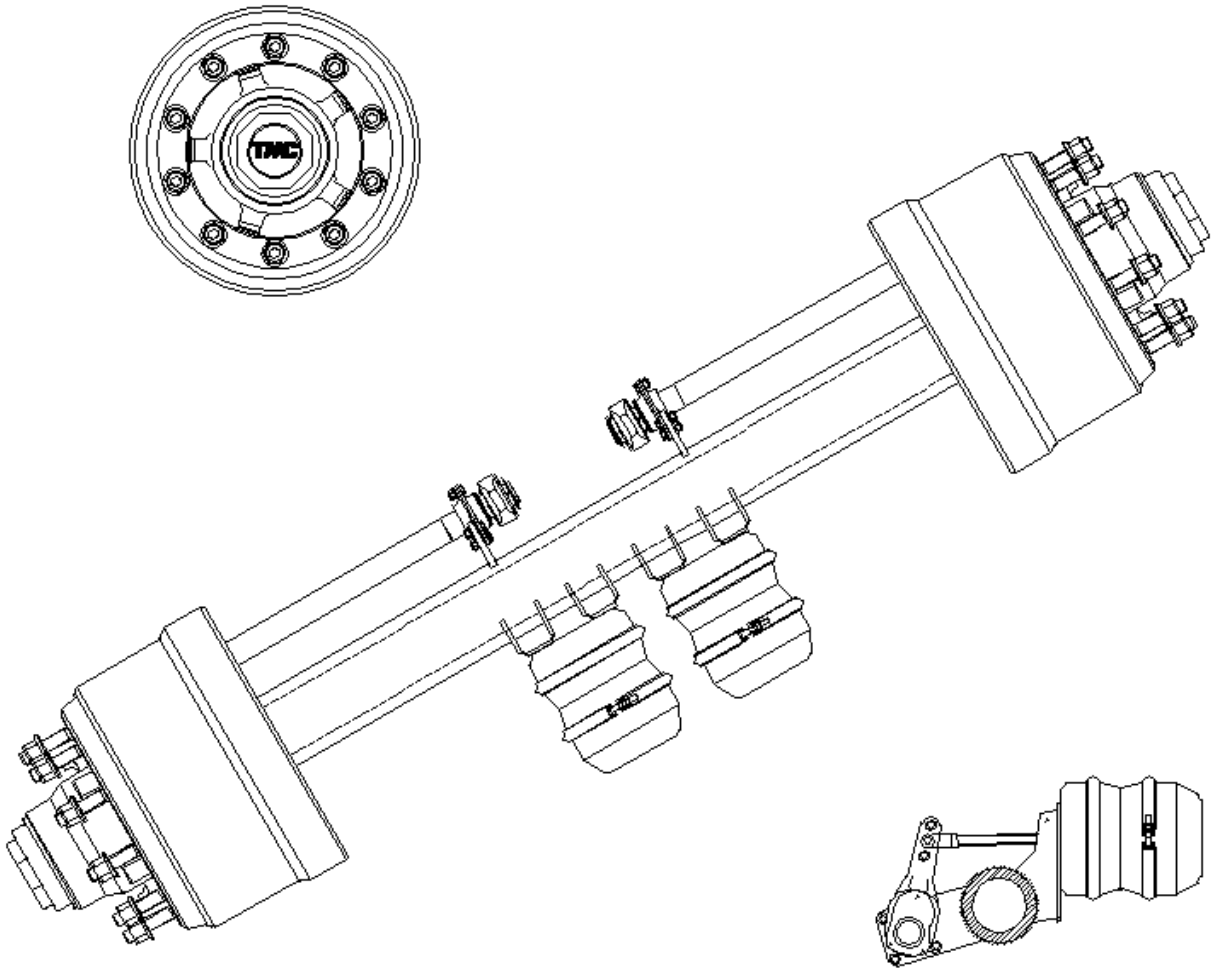
TMC TRAILER AXLE SERVICE MANUAL DRUM BRAKE AXLES



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Engineered To Move

RECOMMENDED SERVICE SCHEDULE

First Service 500 km or on Delivery:

Check torque settings of all wheel nuts - On delivery.
- After all wheel changes.

After first 5,000 Km:

Check and adjust all wheel bearings.

Every 5,000 km or Monthly:

Check ABS (if applicable) for proper operation.
Check secondary and parking brake system (if applicable) for proper operation.
Check tires and wheels (torque wheel nuts to proper torque).
Check axle fluid level, add fluid if required.
Check wheel seals for leaks.
Inflate tires to proper pressure.
Inspect brake system gladhands, hoses, tubing, chambers, valves and reservoirs for leaks or damage.
Check chamber push rod travel and adjust brakes.
Check and adjust the brakes
Check lining thickness (remove dust shields, if necessary). Do not remove wheels.
Visually check axle alignment.

Every 25,000 km or Quarterly:

Lubricate slack adjusters and camshaft bushings using an EP2 type grease or equivalent.
With the axle end lifted rotate the wheels and determine if the wheel bearing's need adjustment.
Inspect brake drums and wheels.
Inspect brake linkage and shoes.
Inspect brake lines and hoses for chafing, looseness and deterioration.
Test brakes for action, side pull and synchronization.
If equipped with ABS, run complete system check.
Perform soap suds leak test on entire air system.
Drain reservoirs.
Check axle alignment.

Every 100,000 km or Annually:

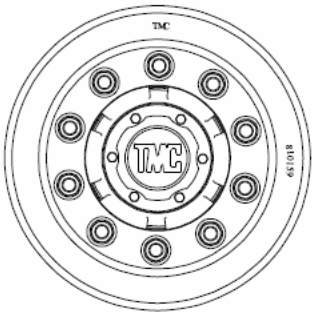
Remove the hubcaps and inspect the wheel bearings and lubricant.
Replace the lubricant if it appears badly contaminated.
Re-adjust the wheel bearings and re torque the axle lock nut.
Replace the hubcaps and ensure the correct amount of lubricant is in the hub end.
Check that the hubcap gasket is not damaged. Replace as necessary.
Check the axle for brake wear, check the rest of the axle components for wear or damage.
Repair, adjust or replace as necessary.

Every 300,000 km or 3 years:

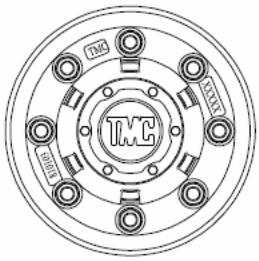
Remove wash and inspect the wheel bearings, replace as necessary.
When re assembling the wheel bearings ensure they are correctly lubricated and adjusted.
See TMC's recommended wheel bearing adjustment procedures.

Note:

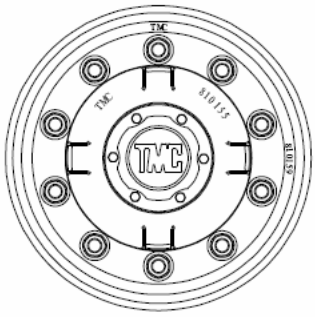
These are the minimum recommended service requirements, dependant on service conditions more frequent service and maintenance schedules may be required for correct operation of the trailer axle.



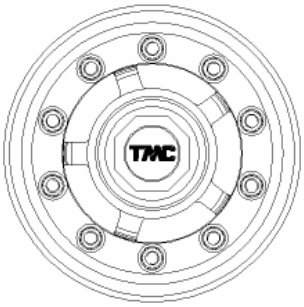
10 Stud x 285 pcd Hub
420 x 180 Brake



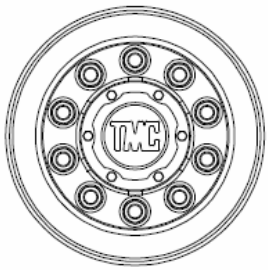
8 Stud x 275 pcd Hub
335 x 210 Brake



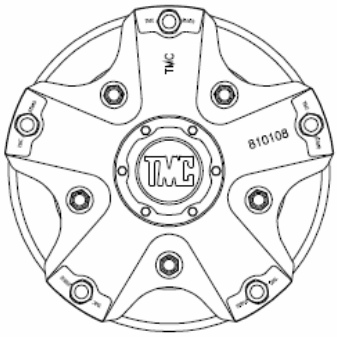
10 Stud x 335 pcd Hub
420 x 180 Brake



10 Stud x 335 pcd Hub
420 x 220 Brake



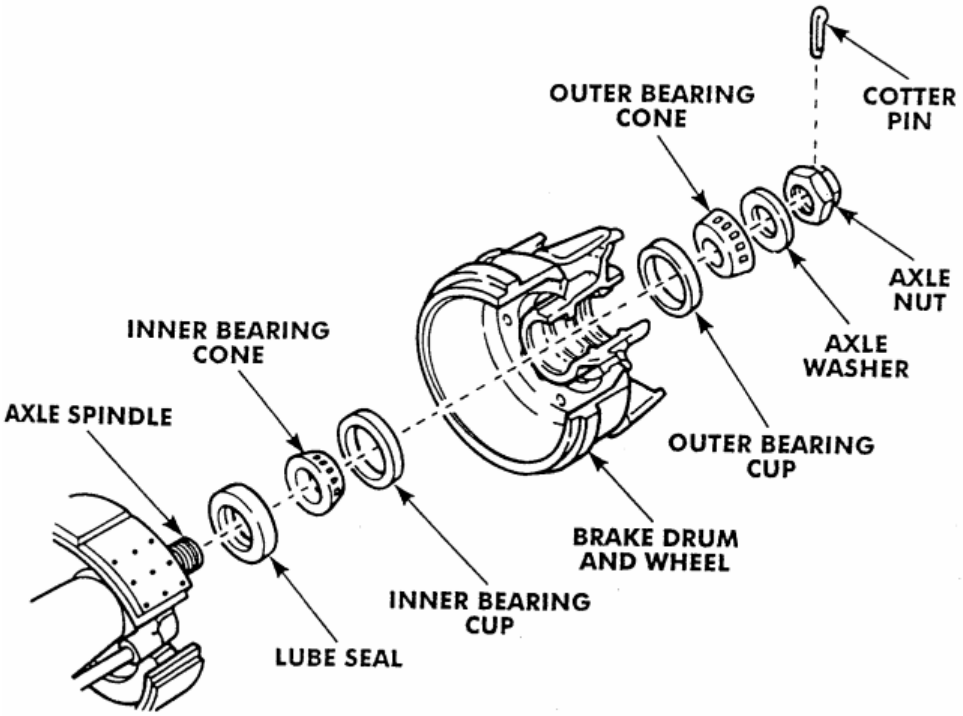
10 Stud x 225 pcd Hub
335 x 210 Brake



5 Spoke Spider Hub
420 x 180 Brake

As TMC's policy is one of continuous development we therefore reserve the right to change or modify the specifications without notification.

BRAKE HUB, BEARINGS AND SEAL REMOVAL



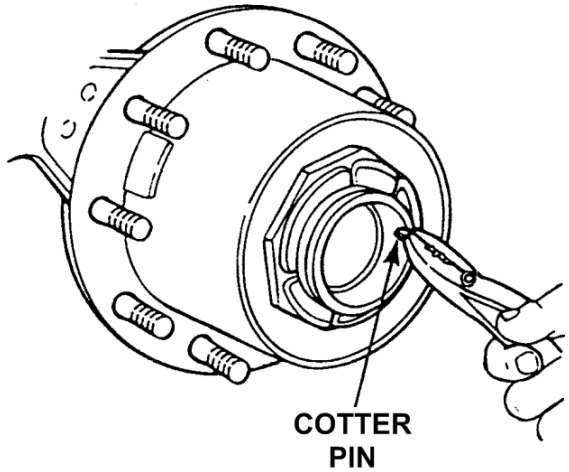
WARNING: Always wear eye protection when working on an axle.

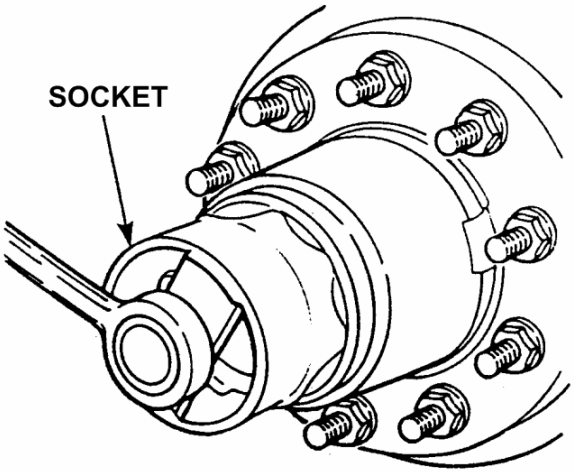
NOTE: Remove the brake hub only when perform servicing on wheel bearings and hub seal. No removal of brake hub is needed for servicing brakes on TMC outboard designed axles.

1. Release the breaks.
2. Using a suitable socket, remove the hubcap.

NOTE: The socket used to remove the hubcap is also used to remove the single axle nut.

3. On axle with a single axle nut:
   - Remove the cotter pin from the axle nut.
   - Remove the axle nut and washer from the spindle.
4. On axle with the double lock nut:
   - Remove the outer axle nut and spacer tab washer.
   - Bend the lock washer tab securing the adjustment nut back away from the nut.
   - Remove the adjustment nut, lock washer and slotted washer from the spindle.
5. On axle with industry standard double lock nut:
   - Remove set screw from the spindle tab washer.
   - Remove the outer jam nut and the spindle tab washer
   - Remove adjustment nut.
6. Remove the hub washer from the spindle.
7. Remove the outer hub bearing from the spindle.



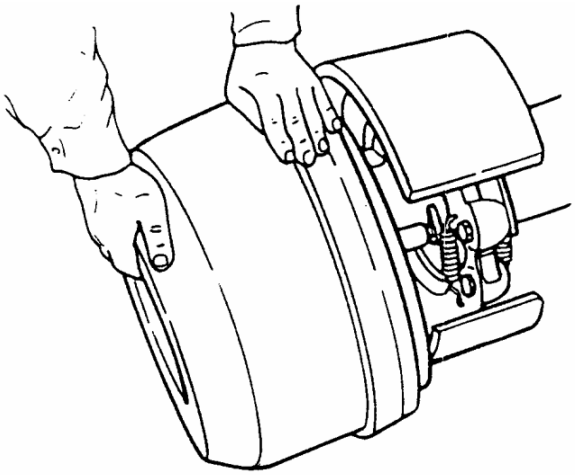


WARNING: Do not hit steel parts with a steel hammer. Parts can break, and flying fragments can cause injury.

8. Remove the hub from the spindle. It may be necessary to tap the hub with a soft mallet to release the hub seal from the spindle.
9. Remove the inner hub bearing from the spindle or the inside of the hub.

WARNING: Do not use a chisel to cut the seal. The shoulder can be damaged, resulting in a leak.

10. Remove the wheel seal from the spindle by gently tapping with a soft mallet. You can also use an appropriate pry bar to pry the seal off the spindle, being not to gouge the shoulder.



REMOVING BRAKE DRUM

NOTE: The seal may have come off the spindle when the hub was removed.

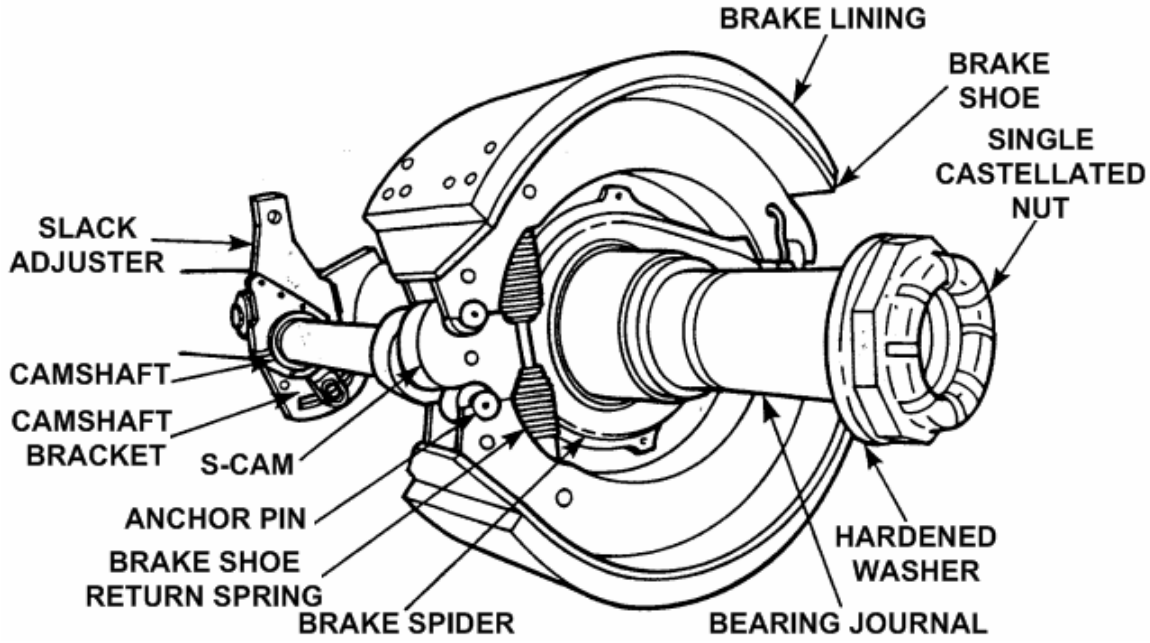
WHEEL BEARING INSPECTION

WARNING: Please thoroughly clean bearing surfaces and cones. Do not mix a synthetic base grease or oil with an organic/mineral base lubricant.

Do not spin fry bearing cones with compressed air. Bearing damage may result.

After removing the axle hub, clean excess grease from the bearing cones. Inspect bearing cones for damaged rollers. Inspect bearing cups for damage to raceway. If any damage is found, replace the affected cone and cup as a set.

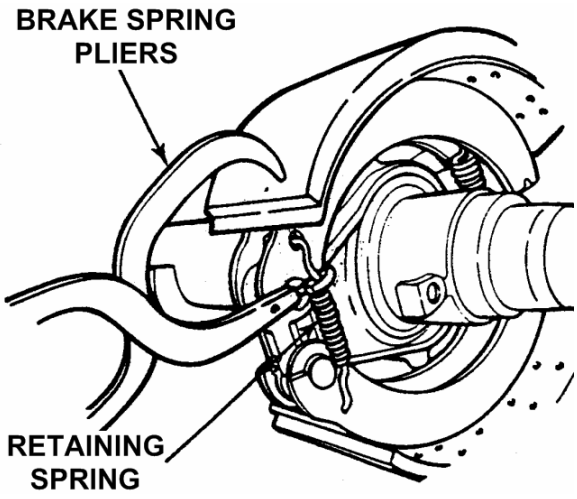
BRAKE COMPONENTS



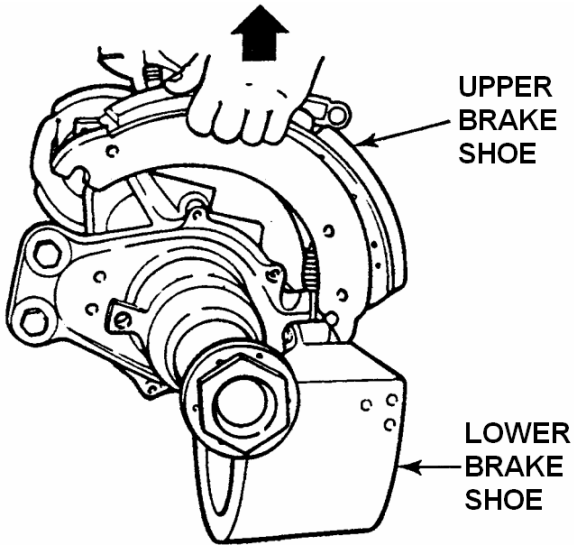
NOTE: No removal of brake hub is needed for servicing brakes on TMC outboard designed axles.

Brake Shoe Removal

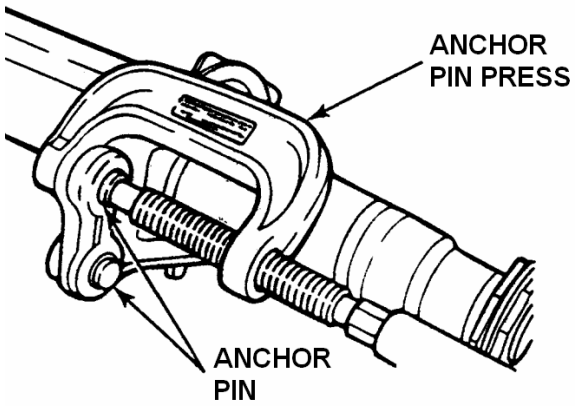
1. Manually release the brakes.
2. Remove the brake drum.
3. Remove the two brake retaining springs.



4. To remove the brake shoes:
   - Press down on the lower brake shoe to disengage it from the anchor pin.
   - Move the lower shoe to the side of the anchor bracket.
   - Lift the upper and lower shoes (still connected by brake return spring) from the anchor plate.



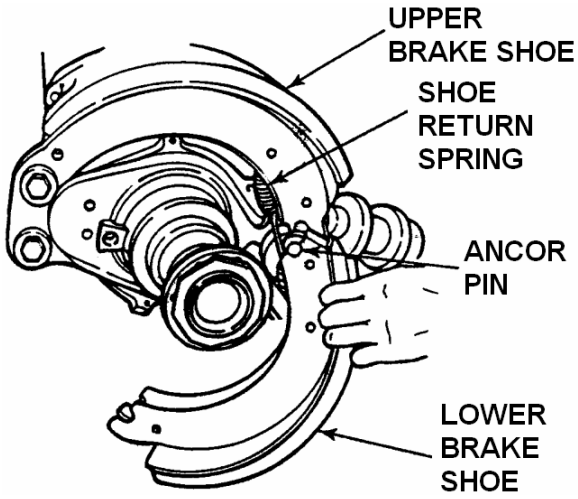
5. Remove the anchor pins. If equipped with a drive pin (P- Model brakes), remove this pin first.
6. Remove the anchor pin bushing, if necessary.
7. Insert a screwdriver into the brake shoe and press the retaining tab of the cam roller clip while gently pulling the roller.
8. While maintaining pressure on the roller, turn the brake shoe over and Insert a screwdriver into the brake shoe and press the retaining tab of the opposite cam roller clip while gently pulling the roller.
9. Remove the roller and dip from the brake shoe.
10. Remove the roller from the dip and inspect for damage.



NOTE: Inspect brake shoes and drum for wear. Follow brake manufacturer guidelines for minimum brake shoe thickness and maximum brake drum Inner diameter. A general guideline for replacing brake shoes is when the lining thickness is 1/4 Inch or less, or when the lining rivets have begun to contact the drum.

Brake Shoe Installation

1. Install the cam roller into the roller dip.
2. Install the roller and clip into the brake shoe.
3. Install the anchor pin bushings (if removed) in the spider.
4. Coat anchor pins completely with grease and install anchor pins.
5. Connect the brake return spring to the brake shoes.
6. Position the roller of the upper spring to the brake shoes.
7. Position the lower brake shoe in the cam head, and then place the other end of the hoe against the anchor pin.
8. Install the two brake retaining springs.
9. Make sure the brake linings are clean.
10. Install the brake drum.
11. Adjust the brakes as described in this manual.
12. Lubricate the camshaft bearings with the specified grease.



HUB SEAL INSTALLATION

The following instructions apply to installing hub seals in new TMC axle beam assemblies and servicing TMC complete axle assemblies.

WARNING: To avoid damaging the wheel seal, support the hub and drum until the outer bearing cone and adjusting nut are installed.

1. If installing the seal on a new TMC axle beam assembly, remove the protective coating from the bearing spindle threads, wheel seal surfaces and cotter pin holes. If installing the seal in an in-service axle, go to Step 2.
2. Remove all dirt, chips and hanging burrs from wheel or hubcap, making sure they are clean and dry.

WARNING: Never install the seal in the hub and then force it into the axle spindle by tightening the axle nut.

3. Using seal installation tool, place seal on spindle with printing "FLUID SIDE" facing the end of the spindle. Tap lightly to seat seal.
4. Rotate the seal installation tool in V4-turn intervals until the seal is properly seated with the metal face of the seal flush with the inner shoulder of the axle spindle.
5. Check for burrs or chips after installation.

BEARING INSTALLATION

WARNING: Wheel seals should be installed before performing the wheel bearing adjustment procedure.

1. Coat inner bearing with lubricant recommended for your application. Install inner bearing.
2. Install wheel, taking care not to unseat or bend the oil seal.
3. Coat outer bearing with lubricant recommended for your application. Install outer bearing.
4. Slip on axle washer.

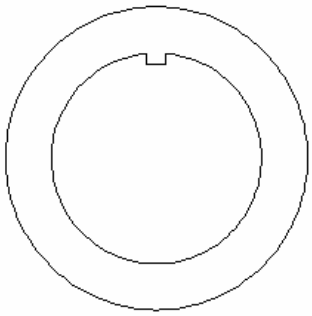
WHEEL BEARING ADJUSTMENT PROCEDURE

Castellated Single Nut - Parallel Spindle TP Wheel Bearings.

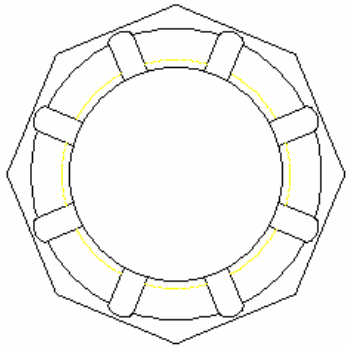
It is recommended that the wheel bearing in new axles (or whenever the wheel bearings are replaced in service) are adjusted after the first 5,000 km. The wheel bearings should then be adjusted at 100,000 km intervals for the axle's service life. These are the minimum recommended service requirements, dependent on service conditions more frequent service and maintenance schedules may be required for correct operation of the trailer axle.

Recommended wheel bearing adjustment procedure:

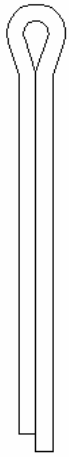
1. Install bearings and wheel or hub on axle.
2. Install bearing tab washer.
3. Install wheel bearing adjusting nut. Screw nut against the bearing tab washer.
4. Ensure that the hub rotates freely in both directions. If any brake drag (binding) is felt temporally back off the brake adjustment to ensure free rotation of the hub.
5. Rotate the hub in both directions and at the same time tighten the wheel bearing adjusting nut until a torque setting of 150/180 Nm is reached.
6. Then back off the adjustment nut so that the cotter pin can be installed in the first hole.
7. Install cotter pin and lock in place.



LOCK WASHER



SPINDLE ADJUSTING NUT

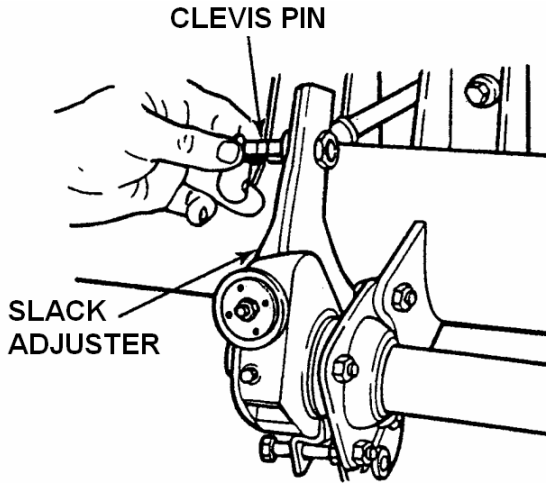


COTTOR PIN

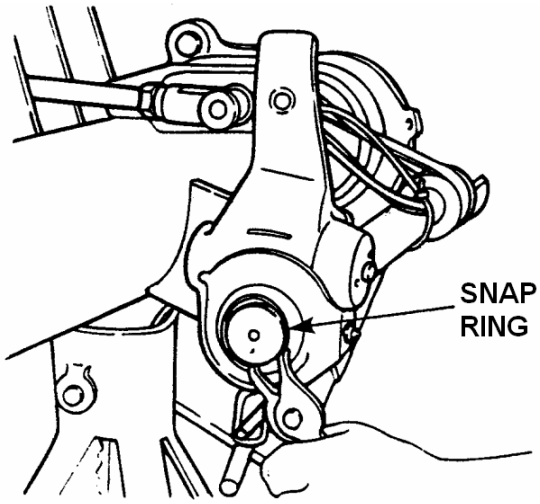
CHECK WHEEL BEARING END FLOAT IS 0.08mm TO 0.20mm.
RE ADJUST IF NECESSARY.

SLACK ADJUSTER REMOVAL

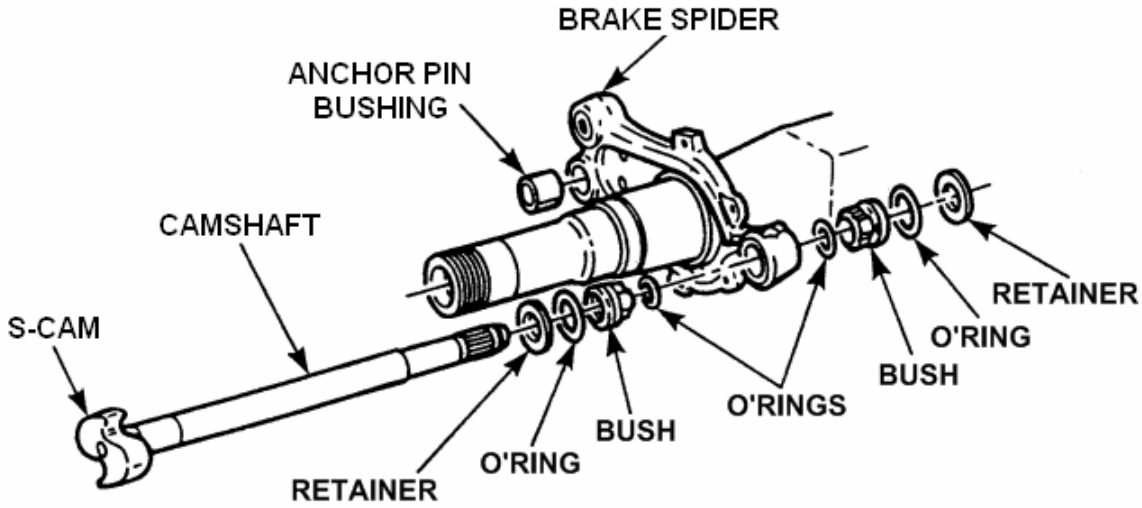
1. Remove the cotter pin that secures the slack adjuster/brake chamber clevis pin. Remove the clevis pin.



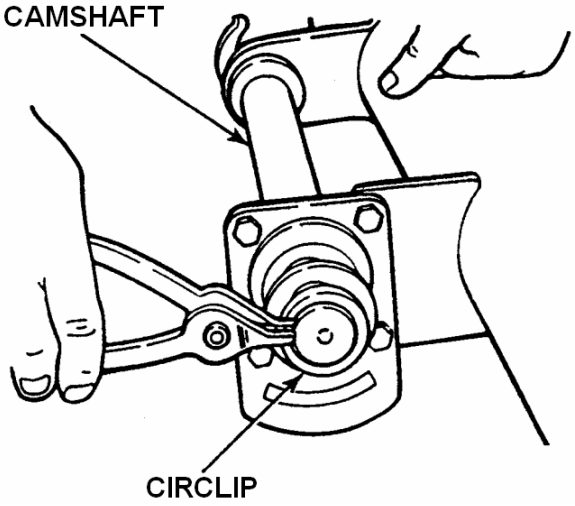
2. Remove the snap ring and washer that secure the slack adjuster to the camshaft. Remove the slack adjuster.

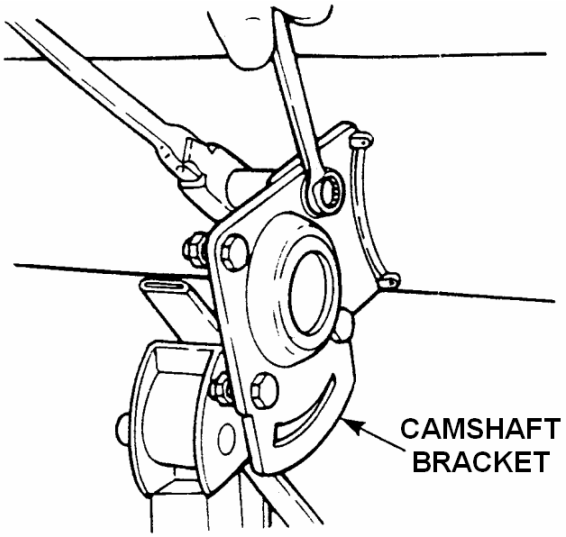


CAMSHAFT AND CAMSHAFT BEARING REMOVAL



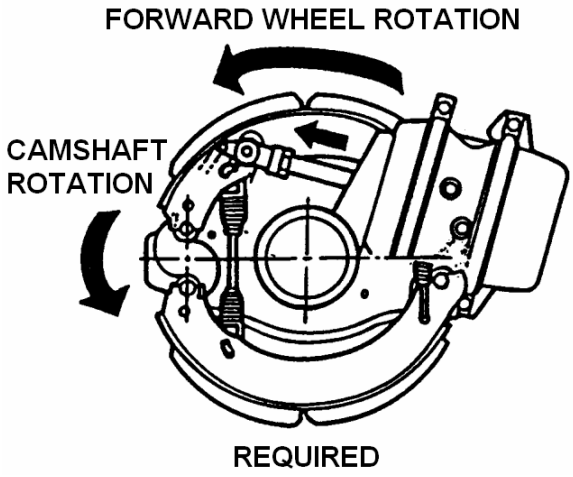
1. Remove the brake shoe and slack adjuster as described in this manual.
2. Remove the retainers from both ends of the camshaft.
3. Remove the camshaft by sliding it out of the axle housing and bushings. It may be necessary to tap the end of the shaft with a soft mallet to release it from the bushings.
4. Remove the two bolts and nuts securing the camshaft bracket to the axle housing.
5. Remove the remaining two bolts from the camshaft bracket and remove the bushing from the bracket.
6. Inspect bushings for wear and deterioration. Replace as necessary.



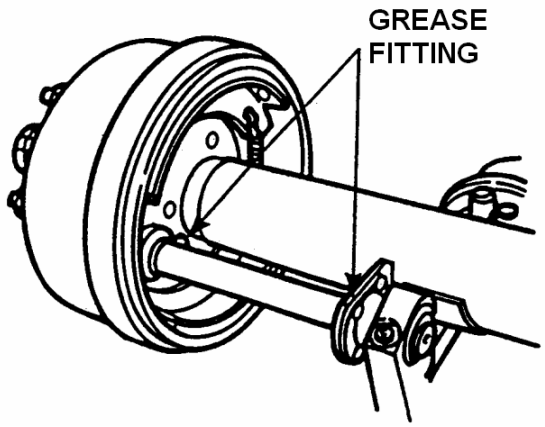


CAMSHAFT AND CAMSHAFT BEARING INSTALLATION

Brake Camshaft Rotation: Cam brakes must be installed so the rotation of the camshaft is in the same direction as the brake drum when the vehicle is moving forward.



1. Clean the camshaft assembly.
2. Clean the faces of the anchor bracket and camshaft bracket.
3. Assemble camshaft bearing and seals into the camshaft bracket. Install the two bracket bolts and nuts and tighten to 20-30 ft-lbs. (27-41 Nm).
4. Attach the camshaft bracket to the axle, securing it with the remaining bolts and nuts. Tighten the bolts to 35-45 ft-lbs. (47-61 Nm).
5. Install the camshaft bearing assembly and O-rings into the spider.
6. Install the camshaft by sliding it into the bearing in the spider and the camshaft bracket.
7. Install the snap rings at both ends of the camshaft.
8. Install the slack adjuster and brake shoes as described in this manual.
9. Lubricate the camshaft bearings with the specified grease.



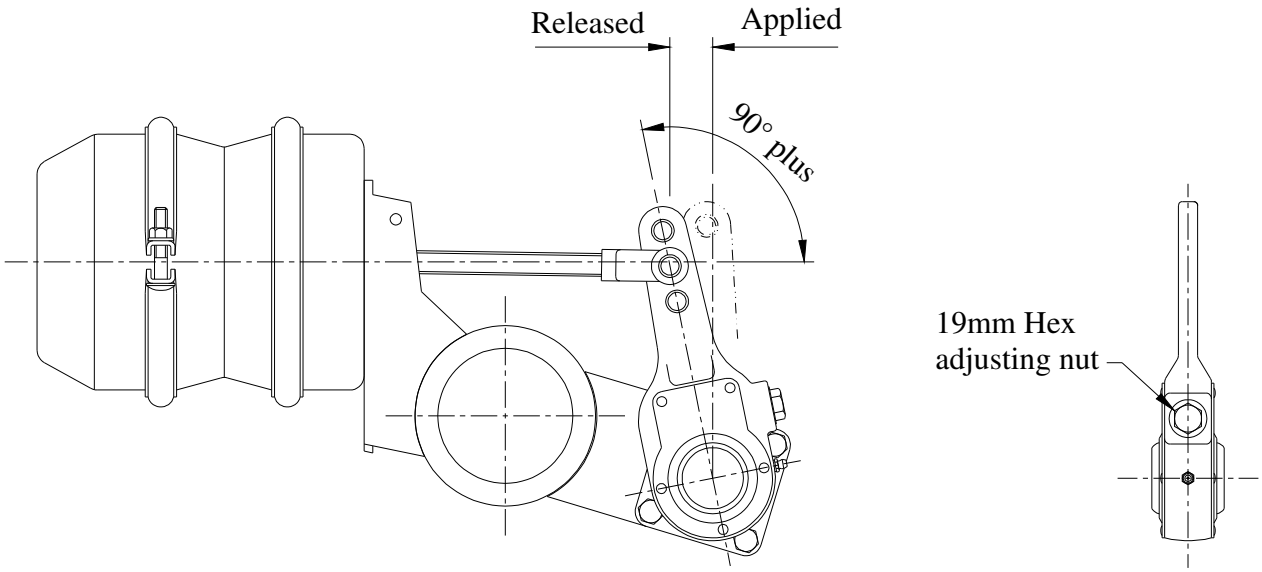
BRAKE ADJUSTMENT – MANUAL SLACK ADJUSTERS

'S' Cam brakes are adjusted by the manual slack adjusters fitted to the camshafts on the axle.

1. With the brakes released, adjust the slack adjuster until the brake linings contact the brake drum. This is done by rotating the 19mm hexagonal nut clockwise.

2. Adjust the 19mm hexagonal nut back one half turn or until the hub rotates freely with no brake drag evident.

3. Finally check that with the brakes released and applied that the angle between the brake chamber push rod and slack adjuster is greater that 90 degrees. The angle can be adjusted by screwing the push rod clevis backwards or forwards along the push rod thread to achieve the correct angle. When finished always check that the push rod clevises lock nut is tightened.



BRAKE ADJUSTMENT - MANUAL SLACK ADJUSTER.

BRAKE ADJUSTMENT – AUTOMATIC SLACK ADJUSTERS

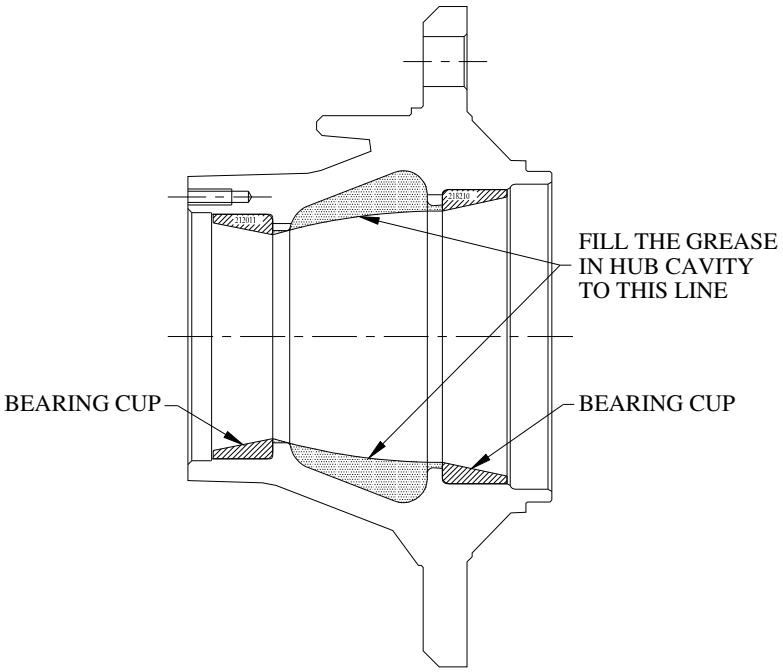
'S' cam brakes fitted with automatic slack adjusters should require no manual adjustment after the initial installation on the axle or initial re adjustment of the brakes after brake relines. All automatic slack adjusters have a specific set up and installation procedure as specified by the automatic slack adjuster manufacturer. This procedure must be adhered to. If in doubt contact the manufacturer of the automatic slack adjusters or the manufacturer's agent for these specific procedures.
Generally, automatic slack adjusters must be re adjusted similarly to the manual slack adjusters on initial installation or after brake relines.

Caution: Please refer to the manufacturer's recommendations.

AXLE HUB LUBRICATION

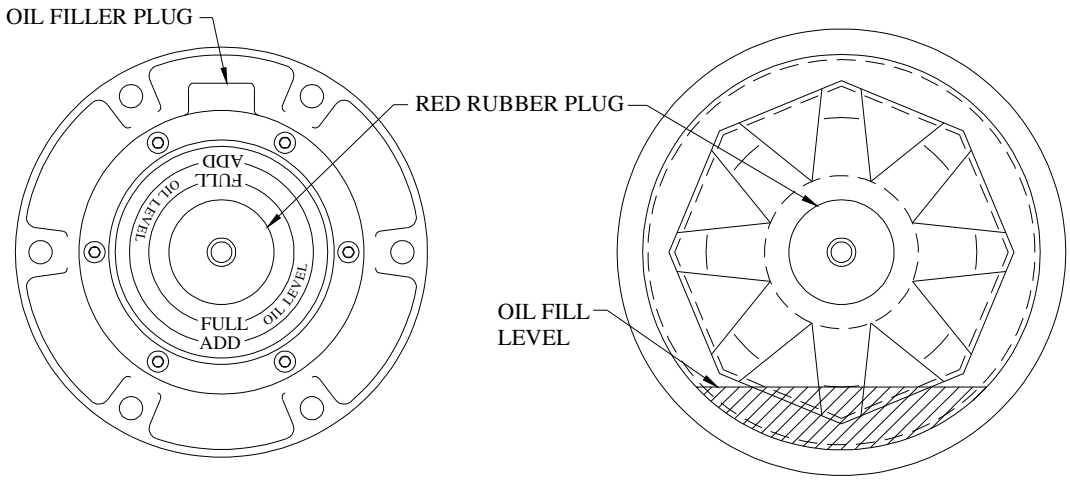
Grease Filled Hubs:

1. The wheel bearings must be fully packed with grease, it is recommended that a wheel bearing packer or suitable equipment is used to correctly pack the wheel bearings with grease.
2. Fill the hub cavity with grease as shown. The cavity is to be filled to a line running from inner bearing cup inner diameter to outer bearing cup inner diameter.
   Caution: Do not overfill the hub cavity.
3. After the final assembly of the hub onto the axle end, a smear of grease should be applied to the inside of the hubcap and over the axle spindle nut/s and lock washer.



Oil Filled Hubs:

1. Remove the rubber plug or screwed plug from the hubcap so that the oil can be added to the hub.
2. Fill the hub with oil to the full level on the sight glass in the hubcap window.
3. Allow time for the oil to flow through the wheel bearings. Top up the hub with oil to the full mark. **Caution: Do not overfill the hub.**
4. Refit the rubber plug or screwed plug back into the hubcap. Check that the plug seals.



OIL HUBCAP - 6 BOLT TYPE

OIL HUBCAP - SCREW IN TYPE

WHEEL BEARING LUBRICANTS

Grease:	**Mobil HP or an approved equivalent grease.**
Oil:	**Mobil 85W/140 or an approved equivalent oil.**

WELDING TO TMC AXLE BEAMS

Recommended welding procedures:

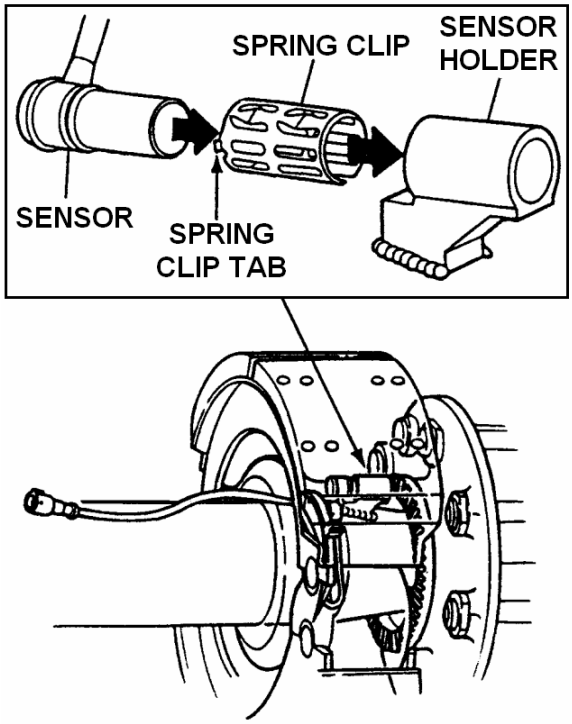
1. Before any welding is conducted on the axle tube, the axle tube must be pre heated to 100 – 1500C locally at the area to which the welding is to be done.
   Caution: Do not apply excessive heat to the axle tube.
2. All welding is to be applied to the axle tube as near as possible to the axle's neutral axis. Do not weld circumferentially around the axle tube.
3. It is recommended that all welds are applied using small multiple fillet weld runs to achieve the desired finished weld fillet size.
4. All welds must be conducted using low hydrogen rods or an approved equivalent MIG process.

ABS SENSOR REPLACEMENT

NOTE: ABS sensors must match the system. Do not mix sensors from different manufacturers.

Removal

1. Manually release the brakes.
2. Remove the drum.
3. Disconnect the ABS sensor connector.
4. Remove the sensor from the sensor holder by pulling straight out.
5. Remove the sensor retaining spring clip, if necessary.



ABS Sensor Installation

NOTE: be sure to use the correct spring clip for the sensor being installed.

1. Install the sensor retaining spring clip, if removed. Into the sensor holder.
2. Install the ABS sensor into the spring dip and sensor holder. Push the sensor in until it contacts the tooth wheel.
3. Connect the ABS sensor connector.
4. Install the brake drum (if using outboard drum)
5. Adjust brakes as described in this manual.

TORQUE SETTINGS CHART

Wheel nuts:

M22 ISO wheel studs	**- 550/600 Nm.**
M20 Japanese wheel studs	**- 400/440 Nm.**
¾" UNC Spider wheel studs	**- 200/260 Nm.**

Inner Camshaft Bracket Bolts:

M10 bolt and nut	**- 30/35 Nm.**

Dust Cover Bolts:

M8 studs	**- 20/25 Nm.**

Hub Cap Bolts:

M8 studs	**- 20/25 Nm.**
5/16" UNC studs	**- 20/25 Nm.**

TROUBLESHOOTING GUIDE

Problem: Brakes will not release

- **Probable Cause:** Brake shoes bound up at anchor pins
  Corrective Action: Lubricate brake operating parts
- **Probable Cause:** Brake hoses restricted
  Corrective Action: Replace hoses
- **Probable Cause:** Brakes out of adjustment
  Corrective Action: Adjust brakes
- **Probable Cause:** Damaged brake assembly
  Corrective Action: Replace or repair as required

Problem: No brakes or insufficient brakes

- **Probable Cause:** Source of air supply shut off at tractor
  Corrective Action: Open cutout cocks at rear of tractor cab or push control valve "IN"
- **Probable Cause:** Low brake line pressure
  Corrective Action: Check air pressure gauge on tractor - inoperative compressor
- **Probable Cause:** Brake lines between tractor and trailer not properly coupled
  Corrective Action: Properly couple brake lines
- **Probable Cause:** Reservoir drain cook open
  Corrective Action: Close drain cock

Problem: Dog tracking

- **Probable Cause:** Leaf spring broken
  Corrective Action: Replace complete spring
- **Probable Cause:** Bent axle
  Corrective Action: Replace or straighten axle
- **Probable Cause:** Frame or suspension out of alignment
  Corrective Action: Straighten frame or align axles

Problem: Uneven tire wear

- **Probable Cause:** Over or under inflation
  Corrective Action: Inflate to proper pressure
- **Probable Cause:** Loose wheel stud nuts or clamps
  Corrective Action: Tighten wheel stud nuts or clamps
- **Probable Cause:** Loose or tight wheel bearing adjustment
  Corrective Action: Adjust bearings
- **Probable Cause:** Axle bent or out of alignment
  Corrective Action: Straighten, align or replace axle
- **Probable Cause:** Tires not properly matched
  Corrective Action: Match tires
- **Probable Cause:** Improper acting brakes
  Corrective Action: Correct brakes as required
- **Probable Cause:** Rapid stopping
  Corrective Action: Apply brakes slowly when approaching stop
- **Probable Cause:** High-speed driving on turns
  Corrective Action: Reduce speed

Problem: Grabbing brakes

- **Probable Cause:** Oil, grease or foreign material on brake lining
  Corrective Action: Reline brakes
- **Probable Cause:** Brakes out of alignment
  Corrective Action: Adjust brakes
- **Probable Cause:** Brake drum out-of-round
  Corrective Action: Replace brake drum
- **Probable Cause:** Damaged brake chamber or internal assembly
  Corrective Action: Replace or repair as required
- **Probable Cause:** Leaky or broken hose between relay valve and brake chamber
  Corrective Action: Replace or repair as required

Problem: Excessive heat cracks on drum

- **Probable Cause:** Rapid stopping or poor air flow to brakes
  Corrective Action: Replace drum

Problem: Brake dragging

- **Probable Cause:** Out of adjustment
  Corrective Action: Adjust brakes
- **Probable Cause:** Binding cam, anchor pins or chamber rod end pin
  Corrective Action: Lubricate and free up
- **Probable Cause:** Damaged brake assembly or brake drum out of round
  Corrective Action: Replace or repair as required

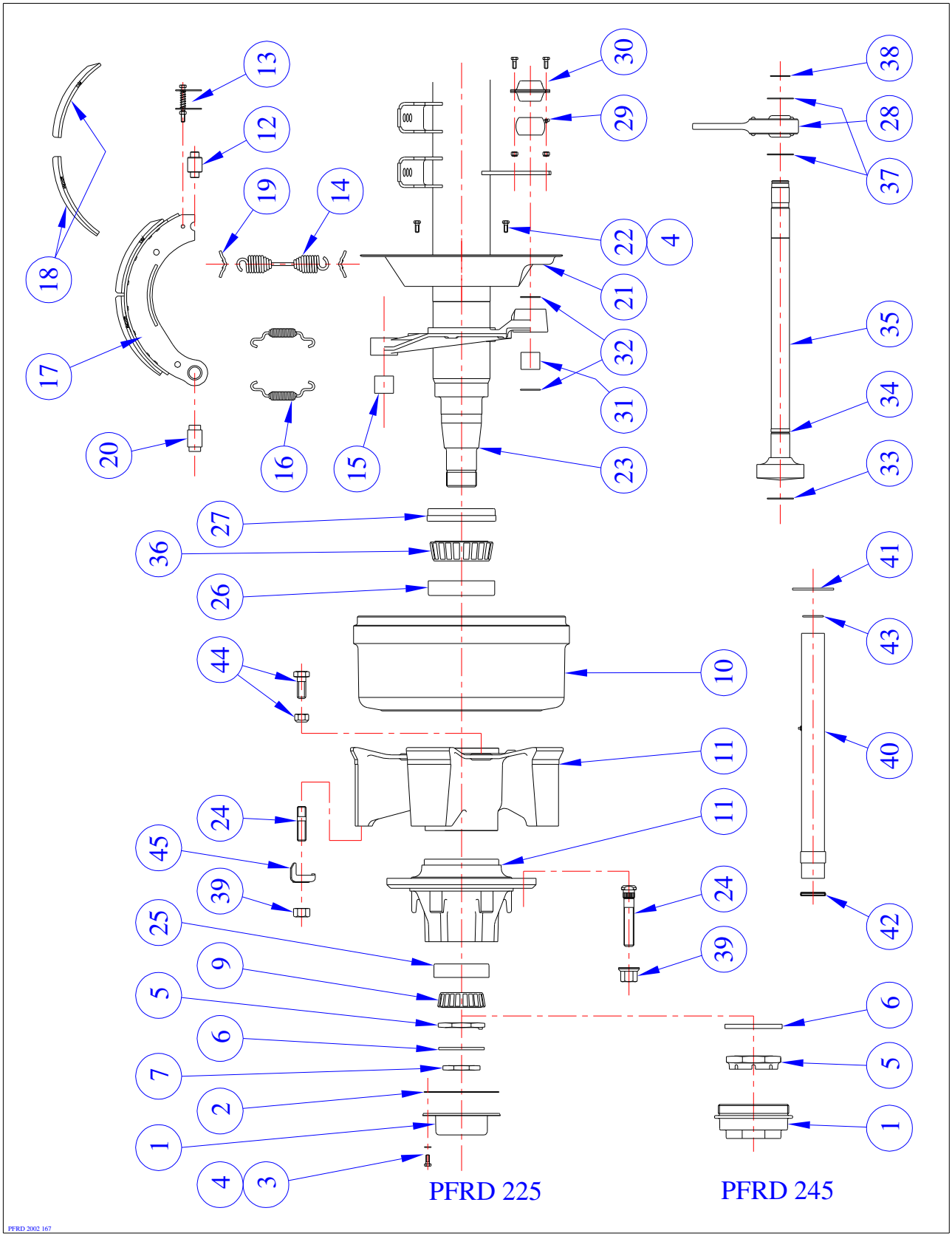
Problem: ABS inoperable

- **Probable Cause:** Refer to ABS manufacturer's service literature

Problem: Slow brake application or release

- **Probable Cause:** Lack of lubrication
  Corrective Action: Lubricate brake operating parts
- **Probable Cause:** Excessive travel in brake chamber push rod
  Corrective Action: Adjust brakes
- **Probable Cause:** Restriction in hose or lines
  Corrective Action: Repair or replace
- **Probable Cause:** Defective brake valve
  Corrective Action: Replace brake valve

SPARE PARTS - AXLE MODELS PFRD-225-167 and PFRD-245-167
Axles with 420 diameter x 180 wide brakes (16.5” x 7”).

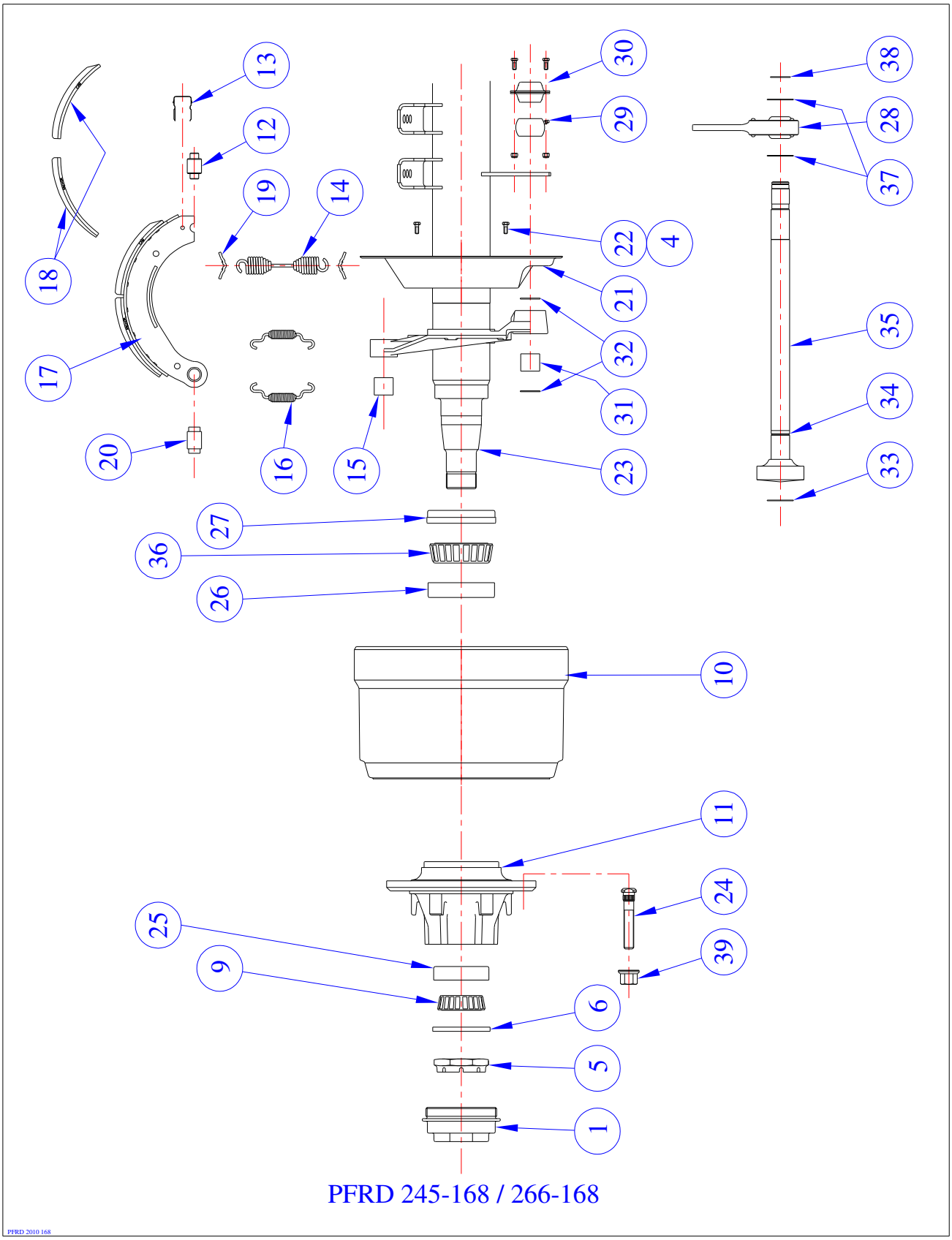


SPARE PARTS - AXLE MODELS PFRD-225-167 and PFRD-245-167
Axles with 420 diameter x 180 wide brakes (16 ½" x 7").

Item	Model PFRD-225-167 Part Number	Model PFRD-245-167 Part Number	Description
1	810146	804345	Hub cap – grease
	810176		Hub cap – oil
2	810147		Hub cap gasket
3	9HBM08125020		Hub cap stud M8 x 20 long
4	9SWM08		Spring washer
5	810124	800110	Axle spindle adjusting nut
6	810123	800111	Axle spindle lock washer
7	810125		Axle spindle lock nut
9	810133/01	800064	Outer bearing cone
10	810110		Brake drum – 5 spoke spider 420x180
	810160	810168	Brake drum – 10 stud x 285 pcd 420x180
	810158	810158	Brake drum – 10 stud x 335 pcd 420x180
11	810108		Hub assembly – 5 spoke spider
	810102	810166	Hub assembly – 10 x 285 ISO steel
	810156	800089	Hub assembly – 10 x 335 ISO steel
	8106395		Hub assembly – 10 x 285 ISO aluminium
	8105366		Hub assembly – 10 x 335 ISO aluminium
12	810094	810094	Cam roller
13	800018	800018	Cam roller retainer
	810093		Cam roller retainer – bolt on
14	800016	800016	Brake return spring
15	800002	800002	Anchor pin bush
16	800015	800015	Brake retainer spring – anchor end
17	800167	800167	Brake shoe – Q brake
	810170		Brake shoe – P brake
18	810171	810171	Brake lining set inc. rivets
19	800013	800013	Brake return spring retainer pin
20	800014	800014	Anchor pin – Q brake
	810092		Anchor pin – P brake bolt on
21	800003	800003	Dust cover
22	9HBM08125025	9HBM08125025	Dust cover bolt M8 x 25 long
23	810130/contact TMC	810139/contact TMC	Axle beam assembly
24	810112		Wheel stud – spider hub
	810148	810148	Wheel stud – M22 ISO x 125mm (long)
	810144	810144	Wheel stud – M22 ISO x 100mm (short)
25	810133/02	800065	Outer bearing cup
26	810132/02	800065	Inner bearing cup
27	810135	800723	Hub seal
28	800052	800052	Slack adjuster
29	800001	800001	Inner camshaft bushing
30		800009/11	Inner camshaft bracket
	9HBM10150030	9HBM10150030	Bolt M10 x 30 long
31	800005	805861	Outer camshaft bushing

Item	Model PFRD-225-167 Part Number	Model PFRD-245-167 Part Number	Description
32	800032	800032	Camshaft seal
33	810122	810122	Camshaft washer 1 ½”
34	800034	800034	Circlip 1 ½”
35	810117/606L	810117/606L	Camshaft 37 spline - left hand
	810117/606R	810117/606R	Camshaft 37 spline - right hand
36	810132/01	800064	Inner bearing cone
37	810122	810122	Camshaft washer 1 ¼”
38	810121	810121	Circlip 1 ¼”
39	810113		Wheel nut – spider
	810145	810145	Wheel nut – M22 ISO
40	810206		Enclosed cam tube assembly
41	810201		Enclosed cam tube support plate
42	810208		Enclosed cam tube seal – outer
43	810207		Enclosed cam tube seal – inner
44	810114		Hub drum bolt and conelock nut assy. ¾”UNF x 2¼”
	810169	810169	ABS pole wheel – 100 tooth
		810K88	Camshaft Repair Kit (Item 29,31,33,34,37,38)

SPARE PARTS - AXLE MODELS PFRD-245-168 and PFRD-266-168
Axles with 420 diameter x 220 wide brakes (16 ½" x 8 ⅝").



SPARE PARTS - AXLE MODELS PFRD-245-168 and PFRD-266-168 Axles with 420 diameter x 220 wide brakes (16 ½" x 8 ⅝").

Item	Model PFRD-245-168 Part Number	Model PFRD-266-168 Part Number	Description
1	804345	804345	Hub cap – grease
5	800110	800110	Axle spindle adjusting nut
6	800111	800111	Axle spindle lock washer
9	800064	800064	Outer bearing cone
10	810220	810243	Brake drum – 10 stud x 335 pcd 420x220
11	800089	881002	Hub assembly – 10 x 335 ISO steel
12	810094	810094	Cam roller
13	800018	800018	Cam roller retainer
14	800016	800016	Brake return spring
15	800002	800002	Anchor pin bush
16	800015	800015	Brake retainer spring – anchor end
17	800168	800168	Brake shoe – Q brake
18	810226	810226	Brake lining set inc. rivets
19	800013	800013	Brake return spring retainer pin
20	800014	800014	Anchor pin – Q brake
21	800004	800004	Dust cover
22	9HBM08125025	9HBM08125025	Dust cover bolt M8 x 25 long
23	810222/contact TMC	881020/contact TMC	Axle beam assembly
24	810144		Wheel stud – M22 ISO x 100mm (short)
	810148		Wheel stud – M22 ISO x 125mm (long)
		810400	Wheel stud – M24 ISO x 115mm
25	800065	800065	Outer bearing cup
26	800065	881004/02	Inner bearing cup
27	800723	881007	Hub seal
28	800052	800052	Slack adjuster
29	800001	800001	Inner camshaft bushing
30	800009/11	800009/11	Inner camshaft bracket
	9HBM10150030	9HBM10150030	Bolt M10 x 30 long
31	800005	805861	Outer camshaft bushing
32	800032		Camshaft seal
33	810122	810122	Camshaft washer 1 ½"
34	800034	800034	Circlip 1 ½"
35	810117/606L	810117/606L	Camshaft 37 spline - left hand
	810117/606R	810117/606R	Camshaft 37 spline - right hand
36	800064	881004/01	Inner bearing cone
37	810122	810122	Camshaft washer 1 ¼"
38	810121	810121	Circlip 1 ¼"
39	810145		Wheel nut – M22 ISO
		810401	Wheel nut – M24 ISO
	810169	810169	ABS pole wheel – 100 tooth
		810K88	Camshaft Repair Kit (Item 29,31,33,34,37,38)