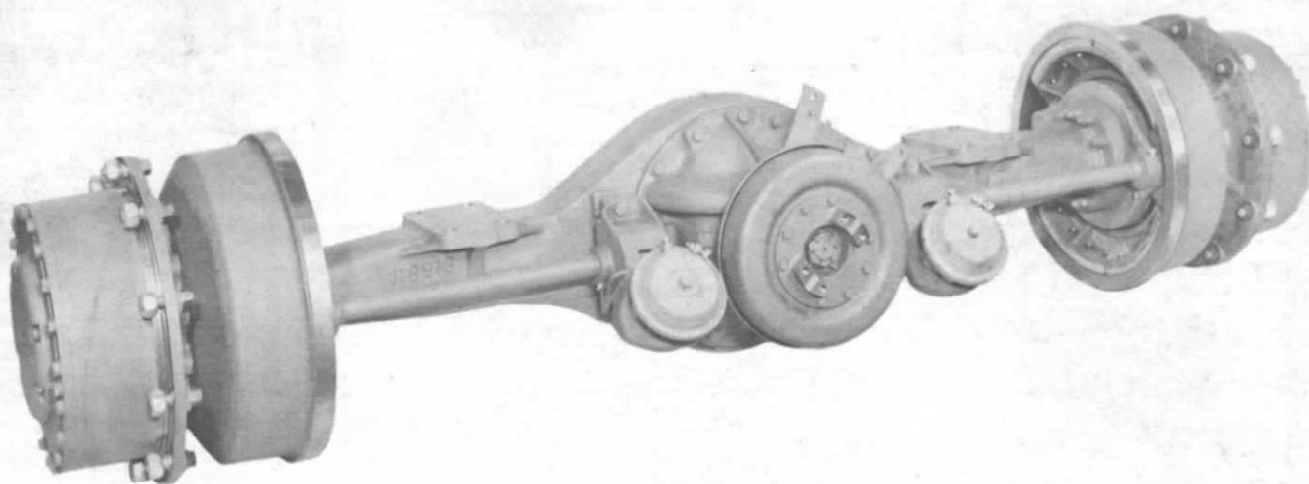


CLARK

AXLE

MAINTENANCE & SERVICE MANUAL



THIS MANUAL COVERS FOLLOWING SERIES OF DRIVE AXLES

FD-30001

FD-37500

RD-37500

FD-30500

RD-30500

FD-36500

FD-30600

RD-30600

RD-36500

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Axle Division

Service Publications • 1300 Falahee Road • Jackson, Michigan 49204

SMDA-30-36-6-70

DRIVE AXLE ASSEMBLY

Item No.	Description	No. Req'd.	Item No.	Description	No. Req'd.
1	CONE, Inner Hub Bearing	2	32	WASHER, Spindle & Brake Attaching	20
2	CUP, Inner Hub Bearing	2	33	SPINDLE	2
3	PLUG, Hub Filler	2	34	BOLT & LOCKWASHER, Dust Cover	8
4	HUB ASSY	2	35	COVER, Brake Dust	4
5	CUP, Outer Hub Bearing	2	36	REAR BRAKE ASSY	2
6	CONE, Outer Hub Bearing	2	37	SPRING, Brake Shoe Return	2
7	NUT, Inner Spindle	2	38	BOLT & WASHER, Brake Drum to Hub	24
8	LOCK, Spindle Nut	2	39	SEAL, Hub Oil	2
9	NUT, Outer Spindle	2	40	CATCHER, Oil	2
10	GEAR, Sun	2	41	DRUM, Brake	2
11	RING, Sun Gear Retaining	2	42	BOLT, Spindle & Brake Attaching	20
12	WASHER, Sun Gear Thrust	2	43	CAM SHAFT	1
13	PLUG, Thrust Cap	2	44	WASHER, Cam Shaft Thrust	2
14	BOLT & LOCKWASHER, Thrust Cap	12	45	FITTING, Brake Spider Grease	2
15	CAP, Sun Gear Thrust	2	46	"O" RING, Cam Shaft	2
16	BOLT & LOCKWASHER, Puller Hole	4	47	BUSHING, Brake Spider	2
17	BOLT & WASHER, Planet Carrier to Hub . .	20	48	RETAINER, Brake Spider Grease	2
18	PLANET CARRIER	2	49	WASHER, Cam Shaft	2
19	BOLT, Internal Gear to Hub	16	50	RING, Washer Retaining	2
20	GEAR, Internal	2	51	SPACER, Air Chamber Bracket	4
21	HUB, Internal Gear	2	52	BUSHING, Air Chamber Bracket	4
22	AXLE SHAFT	2	53	FITTING, Air Chamber Bracket Grease	2
23	NUT, Wheel	20	54	BRACKET ASSY, Air Chamber	2
24	STUD, Wheel	20	55	ADJUSTER, Slack	2
25	NUT, Wheel Stud	20	56	AIR CHAMBER	2
26	HOUSING, Axle	1	57	BOLT & WASHER, Carrier to Axle Housing	10
27	PLUG, Expansion	2	58	BOLT & WASHER, Carrier to Axle Housing .	4
28	PLUG, Housing Filler	1	59	RING, Slack Adjuster Retaining	2
29	BREATHER, Axle Housing	1	60	DIFFERENTIAL & CARRIER ASSY	1
30	PLUG, Housing Drain	1	61	WASHER, Slack Adjuster Retaining	2
31	NUT, Spindle & Brake Attaching	20	62	BOLT, Air Chamber Bracket	4

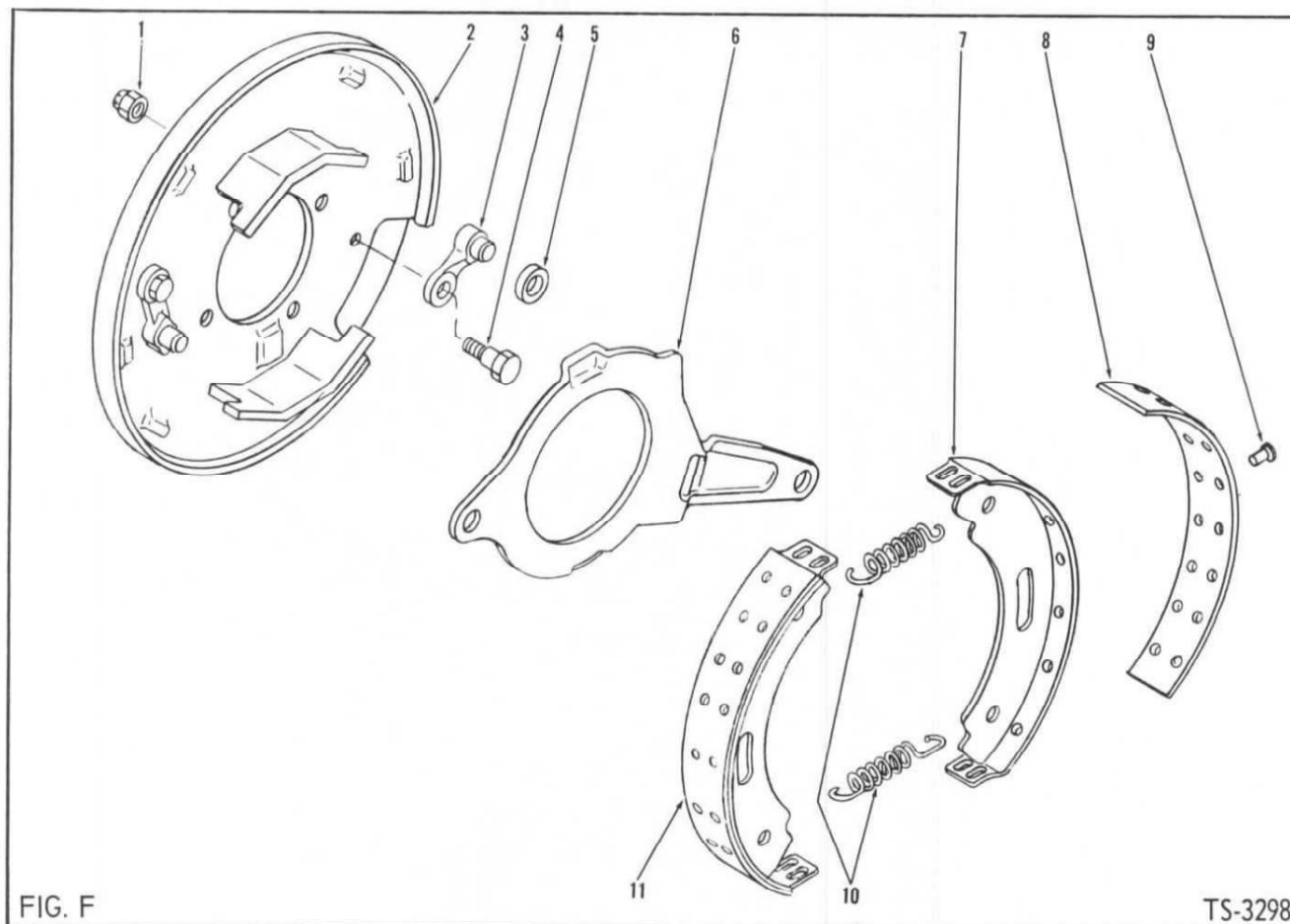


FIG. F

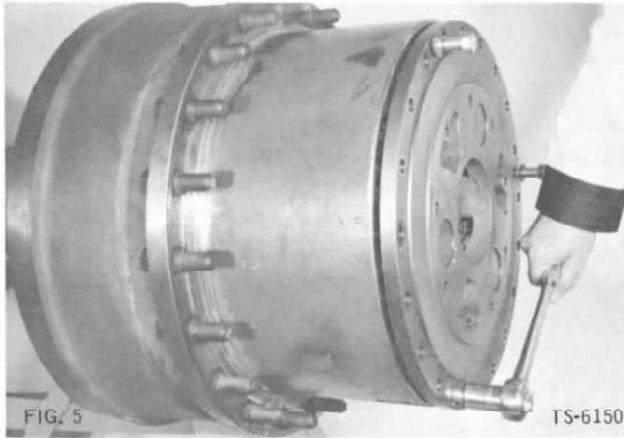
TS-3298

PARKING BRAKE ASSEMBLY

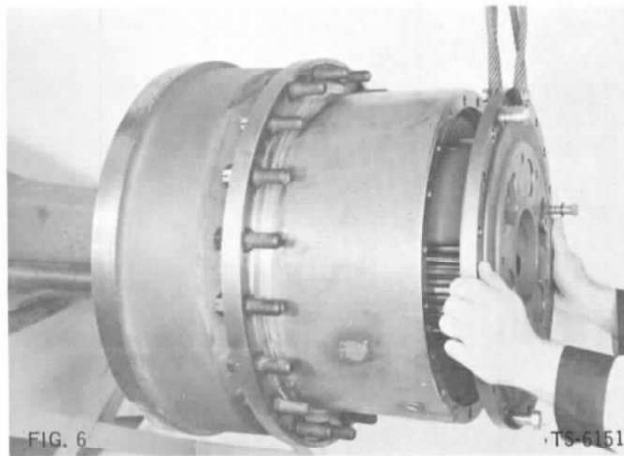
Item No.	Description	No. Req'd.
1	NUT, Pawl to Plate	2
2	PLATE, Brake Backing	1
3	PAWL, Brake	2
4	BOLT, Pawl to Plate	2
5	ROLLER, Brake Actuating	1
6	LEVER, Cam Operating	1
7	SHOE, Brake	2
8	LINING, Brake Shoe	1
9	RIVET, Lining to Shoe	28
10	SPRING, Shoe Return	2
11	SHOE ASSEMBLY, Brake	2

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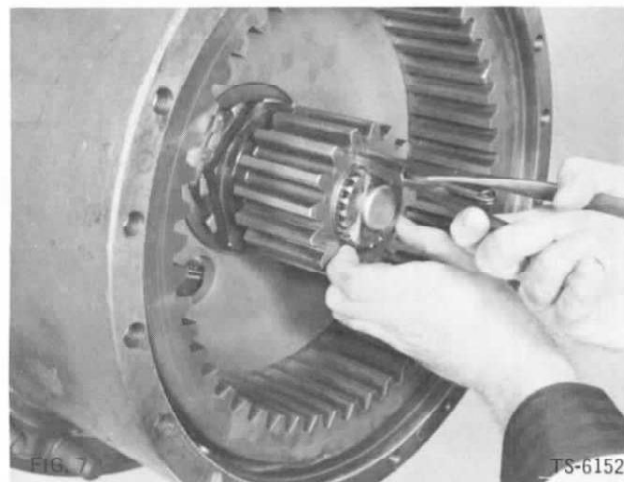
5. Install three mounting bolts in puller holes to pull planet carrier from hub assembly (Fig. 5).



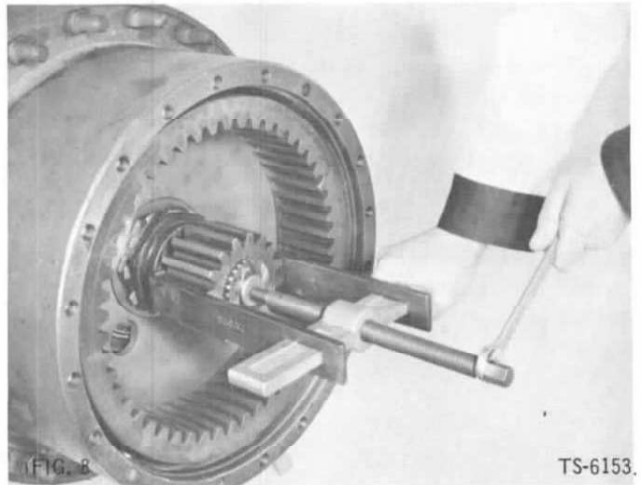
6. Remove planetary assembly (Fig. 6). Remove "O" ring from planetary assembly.



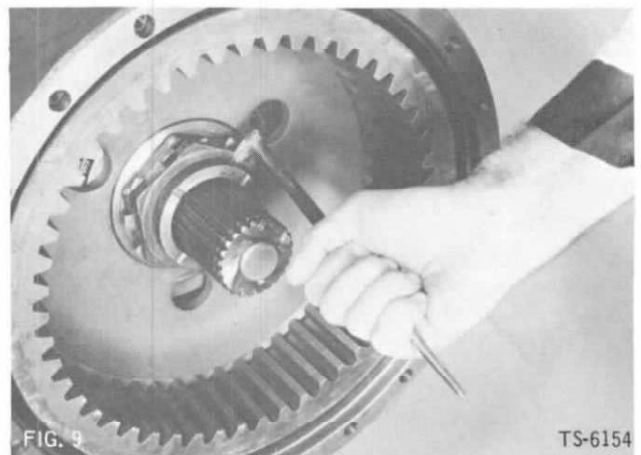
7. Remove sun gear retaining ring (Fig. 7).



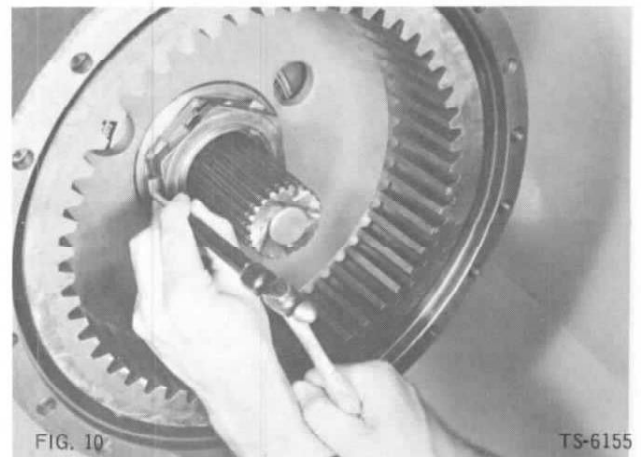
8. Remove sun gear using suitable puller (Fig. 8).



9. Some axle models have thrust ring pressed lightly into end of spindle. If provided, use pry bar to remove thrust ring from end of spindle (Fig. 9).



10. Straighten tangs on nut lock as shown in Fig. 10.



11. Support weight of hub and drum assembly with hoist. Wrap several turns of .010" to .020" shim stock around end of axle shaft to protect shaft splines (Fig. 11). Install special wrench (Clark No. 945940) on outside spindle nut. Tighten guide screws lightly against shim stock.

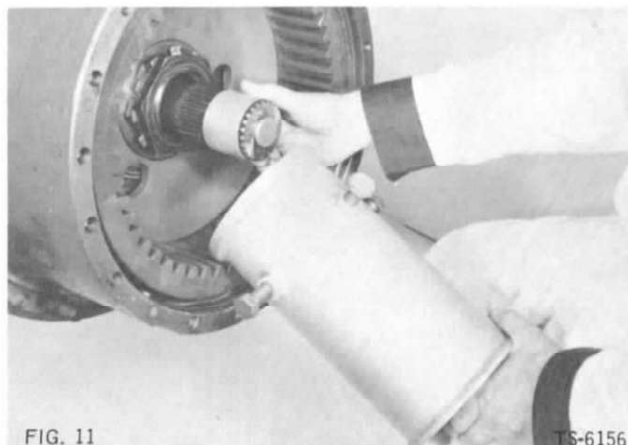


FIG. 11

TS-6156

12. Remove outside spindle nut, nut lock, and inside spindle nut (Fig. 12).

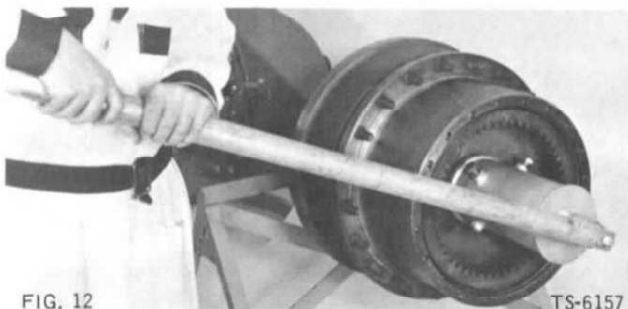


FIG. 12

TS-6157

13. Support weight of brake drum and hub assembly with hoist. Remove internal gear and hub from spindle assembly (Fig. 13). In some cases it will be necessary to use pry bars as shown.



FIG. 13

TS-6158

14. Pull straight out on brake drum and hub assembly to remove it from axle (Fig. 14). Be sure brake shoes are in fully released position.

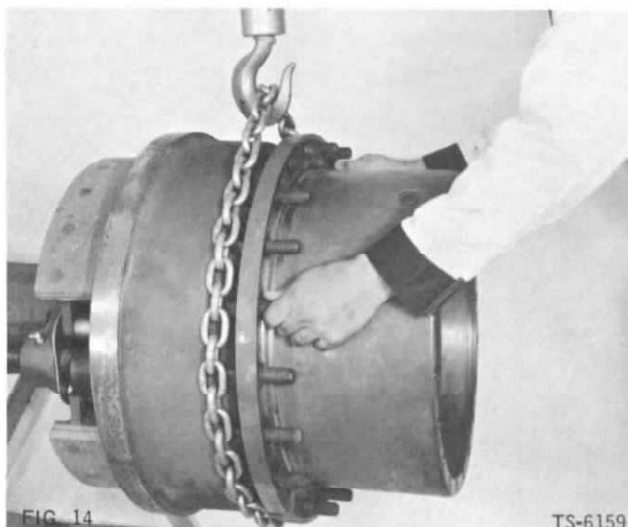


FIG. 14

TS-6159

15. Remove cotter pin and spring anchor pin washer. Disengage and remove brake shoe return spring from anchor pin (Fig. 15). *Discard old return spring.*

CAUTION: Use care when removing return spring so as not to cause injury. Spring is under tension and can be projected some distance when released from anchor pin. Support lower brake shoe or it will pivot around anchor pin when spring is released.

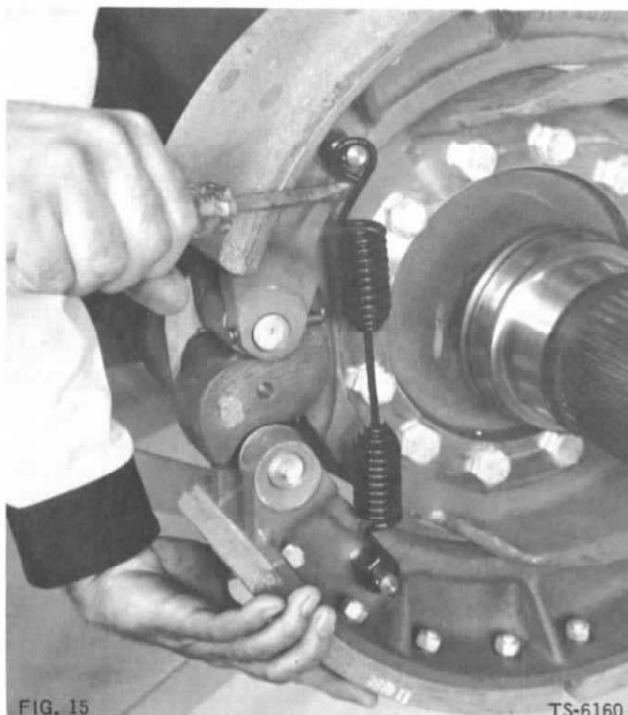


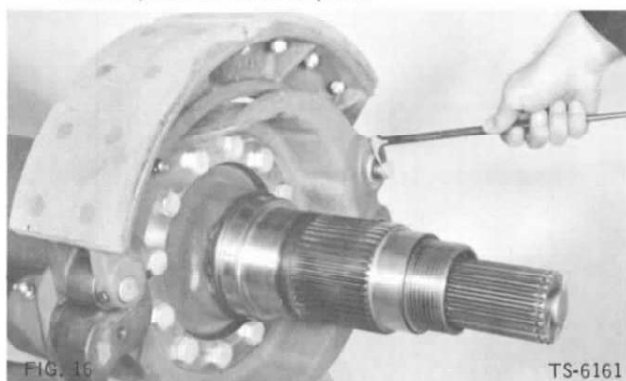
FIG. 15

TS-6160

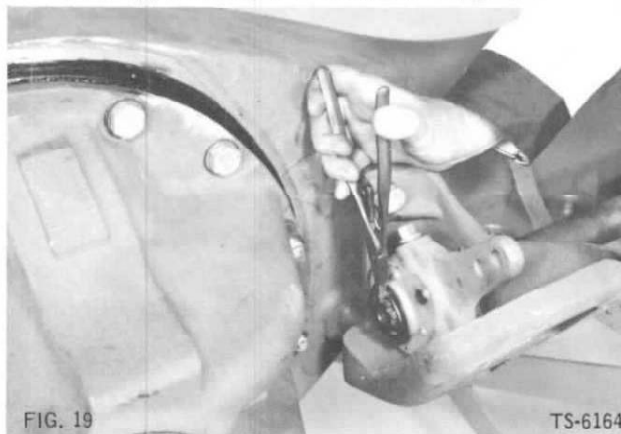
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16. Cut lockwire and remove anchor pin set screws. Unscrew bolt in anchor pin several turns. Use pry bar under screw head to start anchor pin from spindle support assembly (Fig. 16).

NOTE: Anchor pins of some axle models are held in place by retaining plate and bolt. Remove bolt and anchor plate to remove pins.



19. Remove slack adjuster retaining ring (Fig. 19). Remove slack adjuster retaining washer. Note position of slack adjuster adjusting screw. In some applications, screw is adjacent to air chamber bracket. In other applications, it is as shown in Fig. 19.



17. Remove anchor pin and remove brake shoe (Fig. 17).



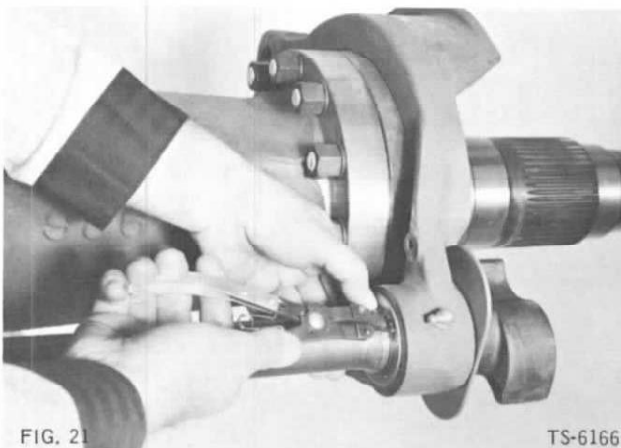
20. Use soft mallet to drive slack adjuster from brake cam shaft (Fig. 20).



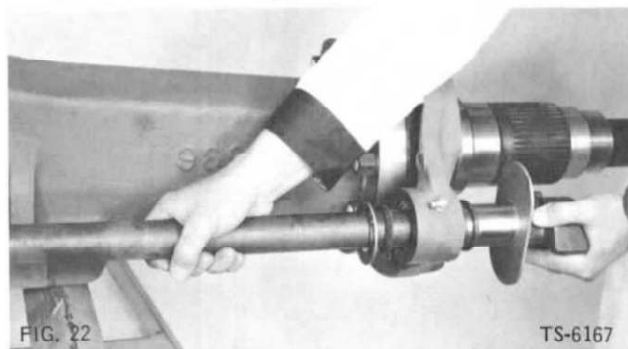
18. Remove cotter pin and pin securing clevis of air chamber to slack adjuster. Remove nuts and lockwashers securing air chamber to air chamber bracket; remove air chamber (Fig. 18).



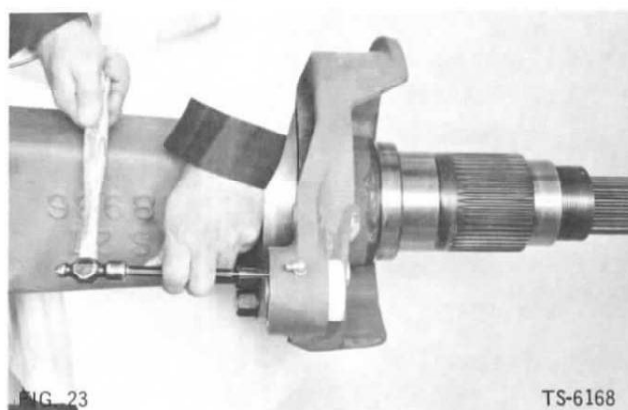
21. Unseat retaining ring that holds cam shaft positioned in brake spider (Fig. 21).



22. Remove brake cam shaft and cam shaft thrust washer from brake spider (Fig. 22). Remove cam shaft grease washer, felt grease retainer, and "O" ring.



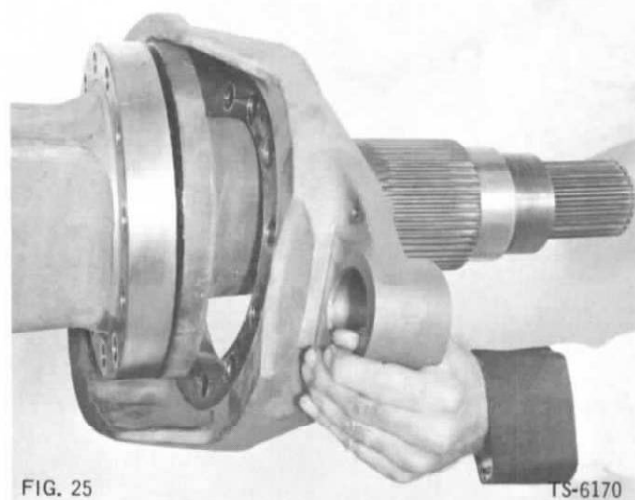
23. If damaged, drive brake cam shaft bushing from brake spider (Fig. 23).



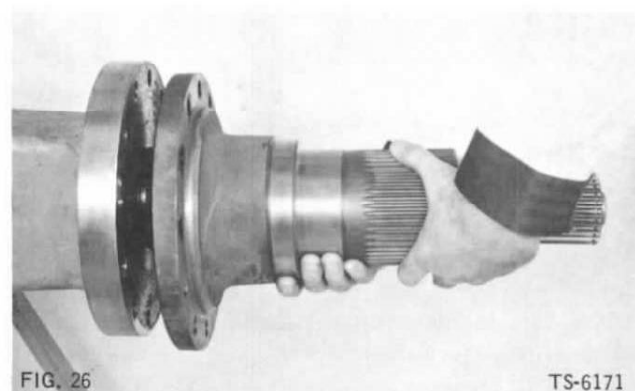
24. Remove mounting bolts and washer securing spindle and brake spider to axle housing (Fig. 24).



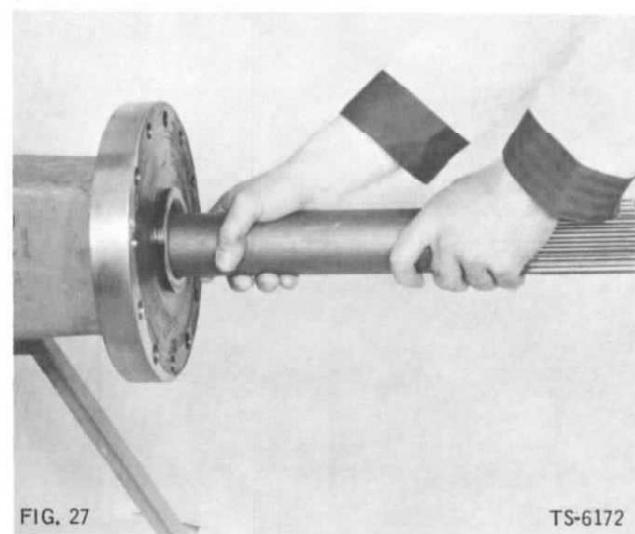
25. Remove brake spider from spindle (Fig. 25).



26. Remove spindle from axle housing (Fig. 26).

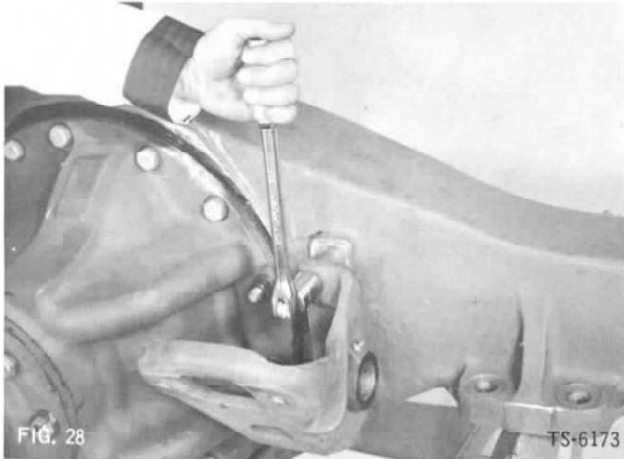


27. Remove axle shaft from axle housing (Fig. 27).



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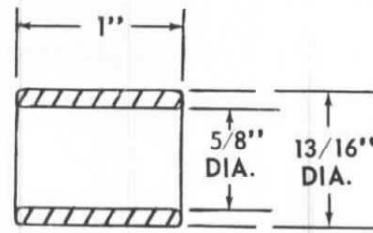
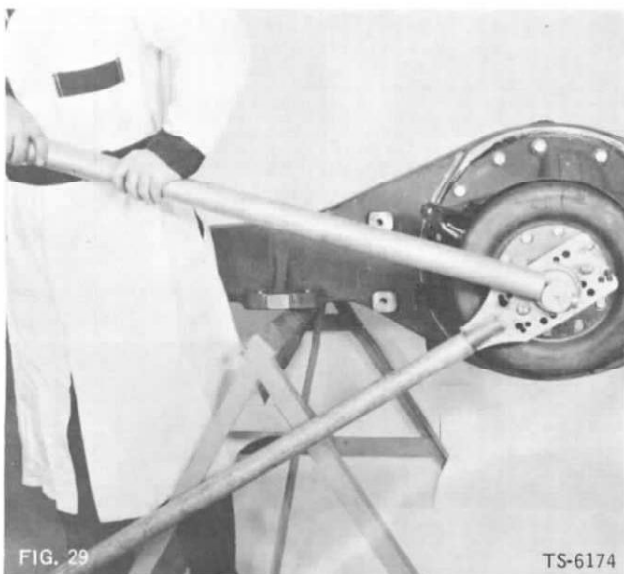
28. Remove two bolts and lock washers that secure air chamber bracket to axle housing; remove bracket and spacers (Fig. 28).



29. Disassemble opposite side of axle following instructions given in steps 2 through 28.

30. If axle is equipped with parking brake, proceed as indicated below. If axle is not equipped with parking brake, proceed to step 39. Position socket on flange nut and then install flange retaining tool with two spacers between tool and flange. Spacer dimensions are given in Fig. 30. Loosen flange nut (Fig. 29). Remove flange retaining tool and remove flange nut and washer.

NOTE: Standard 2 5/8-inch socket will not fit flange nut because socket wall is too thick to enter recess in flange. Machine socket as shown in Fig. 31 to provide proper clearance.



1/32" DIA RADIUS ALL CORNERS

FIG. 30

TS-5685

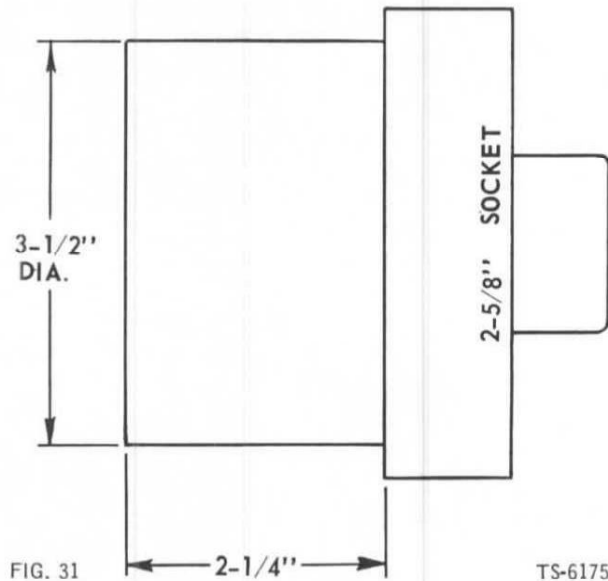


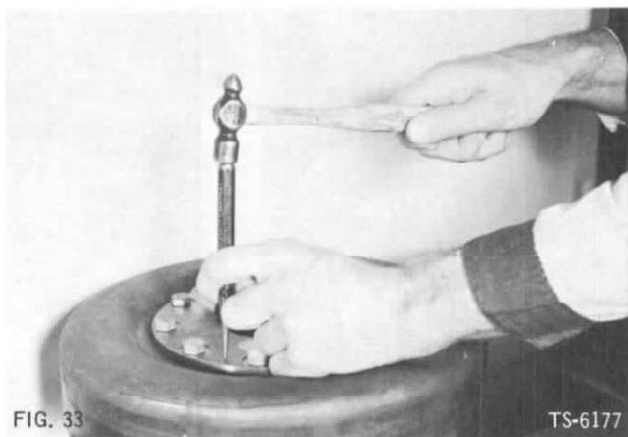
FIG. 31

TS-6175

31. Use suitable puller to pull assembled companion flange and parking brake drum from pinion shaft (Fig. 32).



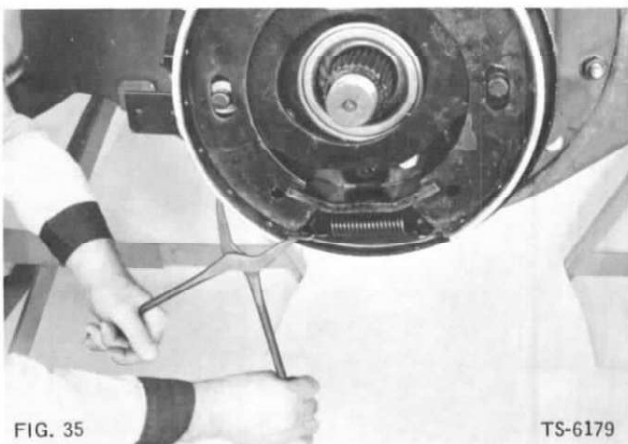
32. Match mark parking brake drum to companion flange (Fig. 33). This will assure proper balance of parts when reassembled.



33. Position assembled parking brake drum and companion flange on press and apply light press pressure to retain parts while removing nuts, lockwashers, and bolts (Fig. 34). Do not distort or score parking brake drum by clamping tightly in vise.



34. Remove lower parking brake spring with brake spring pliers (Fig. 35).



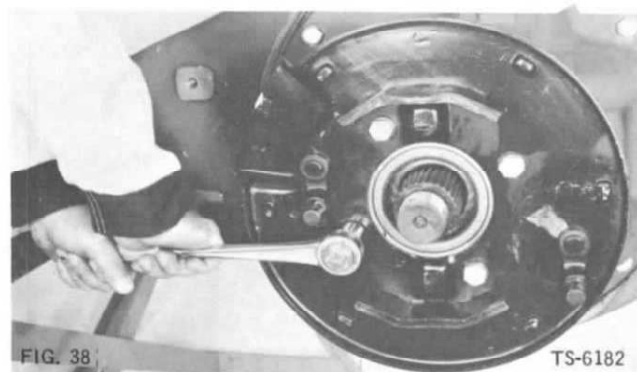
35. Spread brake shoes and remove assembled brake shoes and upper parking brake return spring (Fig. 36).



36. Remove brake operating cam lever and roller from brake backing plate (Fig. 37).



37. Remove bolts and lockwashers securing brake backing plate to differential and carrier assembly (Fig. 38). Temporarily reinstall companion flange on pinion shaft to facilitate removal of differential and carrier assembly.



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38. Support weight of differential and carrier assembly with hoist. Remove bolts, nuts, washers, and dowels securing differential carrier to axle housing (Fig. 39).



39. Lift differential and carrier assembly from axle housing with hoist (Fig. 40). If necessary, break seal between parts by tapping with plastic hammer. Remove differential gasket.

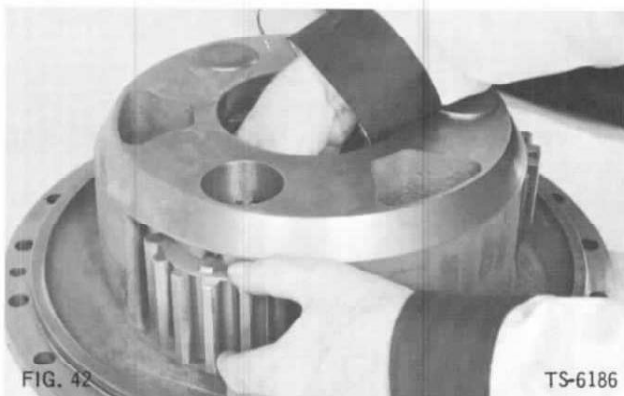


Disassembly of Planet Carrier Assembly

1. Place planet carrier assembly in press as shown and press out pinion shaft (Fig. 41). Take care to catch pinion shaft lock ball released as shaft is pressed out.



2. Carefully remove pinion shaft, planet pinion, pinion thrust washers, pinion rollers, and pinion roller spacer (Fig. 42). Rollers will drop from pinions. Take care to prevent losing them.



Disassembly of Hub and Drum Assembly

1. Match-mark hub and drum to insure proper reassembly (Fig. 43).



2. Cut lockwires and remove bolts securing brake drum to hub (Fig. 44). Remove brake drum and oil catcher.

