



CHEVROLET MOTOR DIVISION
 General Motors Corporation
 Chevrolet Service Department



Chevrolet Dealer Service Technical Bulletin

67-T-30

Number:

IV

Section:

May 12, 1967

Date:

Attn: Service Manager

Subject: REAR WHEEL HOP - 1967 CAMARO -
 327 AND 350 CU. IN. ENGINES WITH
 4-SPEED TRANSMISSIONS

To: ALL CHEVROLET DEALERS

Rear wheel hop complaints have been encountered on some 1967 Camaros with 327 (275 h.p.) and 350 cu. in. engines when combined with a 4-speed transmission. This condition occurs during hard acceleration, particularly when in first gear with high RPM starts.

To correct this problem on vehicles equipped as stated above, a new or second design radius rod and stop bracket entered production on March 27, 1967. This new rod, which is rectangular in shape, is positioned from the right hand underbody side rail to the rear axle housing. The stop bracket, which eliminates the possibility of axle wind up, is attached to the rear axle bracket so that the stop bumper is located directly under the radius rod.

For service, the new radius rod and stop bracket assembly can be installed on complaint vehicles by one of the two procedures listed. Welding is involved both at the underbody rail and on the rear axle housing. Proper precautions should be taken to protect fuel lines and to prevent warpage of the axle tube.

- a. For vehicles built prior to December 15, 1966, with no provisions for a radius rod.
- b. For vehicles built after December 15, 1966, with provisions for the round radius rod.

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- c: Dealer List
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Important That All Service Personnel Read—Please Initial

Service Manager	Shop Foreman	Service Salesman	Service Technicians								

PROCEDURE "A" - VEHICLES WITH NO PROVISIONS FOR RADIUS ROD INSTALLATION

MATERIAL

<u>Part No.</u>	<u>Quantity</u>	<u>Description</u>
3920234	1	Rod Assembly
3914806	1	Bracket
7721985	1	Reinforcement Assembly
9/16" - 18 x 3"	1	Bolt
9422304	1	Nut (9/16"- 18 - 301M Steel)
9/16"	1	Lock Washer
5/8" - 18 x 3-1/2"	1	Bolt
9422306	1	Nut (9/16" - 18 - 301M Steel)
5/8"	1	Lock Washer
3/8" - 16	2	Nut
3905569	2	Washer (Special)
382588	2	Washer (25/64")
3/8"	2	Lock Washer
3924149	1	Bracket - Rear Axle
1/2" - 20 x 3-1/2"	1	Bolt
1/2"	1	Lock Washer
1/2" - 20	1	Nut
3920237	1	Stop
3920240	1	Bumper Assembly
3920241	1	Spacer
1/4" - 20 x 1/2"	1	Tap Screw
3914813	1	Intermediate Parking Brake Cable
3914811	2	R. & L.H. - Rear Parking Brake Cable

INSTALLATION

1. Radius rod installation must be performed with vehicle at curb load (vehicle weight plus full tank of gas).
2. Remove rear seat cushion and roll back floor panel deadener.
3. Remove parking brake cables.
4. Loosen underbody fuel line clips (forward from the rear axle) and position fuel line downward from the underbody. This precaution must be taken to remove fuel line from area to be welded in step #7.
5. Position the center of the elongated hole in the vertical flange of the body bracket 2-3/8" rearward of the existing gage hole in the right hand frame side rail (just ahead of the rear spring front hanger).
6. Using the body bracket as a template (located in step #5), drill two 1/2" diameter holes in the floor panel for the body bracket and floor panel reinforcement mounting holes.
7. Place the floor panel reinforcement on top of the floor panel with studs extending downward through the holes drilled in step #6. Tack weld the reinforcement to the floor pan with arc welder, 1/2" tacks, 3" apart all around.
8. Install fuel line to underbody as originally positioned.

9. Body bracket installation - reference attached illustration.
 - a. Mount the body bracket in position to the underside of the floor pan with radius rod attached loosely.
 - b. Attach the body bracket vertical flange to the side rail by arc welding in the elongated hole area.
10. Rear axle bracket location:
 - a. Bolt the axle bracket, including stop and bumper assembly, to the free end of radius rod.
 - b. Swing the rod up to position the axle bracket on the axle tube 4-1/4" from the edge of the carrier housing.
 - c. Tack weld (using arc welder) the rear axle bracket to the axle tube.
11. Rear axle bracket attachment - after the rear axle bracket has been tack welded in position (step #10), remove the rod from the axle bracket and complete the welding (arc weld) of the bracket to the rear axle tube. Weld across outside of each bracket leg using wet rags to cool adjacent areas of the axle tube.

Note: It is extremely important that excessive heat be avoided during arc welding operation to prevent rear axle damage, such as warping or distortion of the axle tubes.
12. Radius rod attachment - remount rod and stop assembly to axle bracket.
13. Rear seat installation (perform step "a" if seat does not clear reinforcement):
 - a. Bend the rear seat cushion under-spring up 5/8" in the area of the added floor panel reinforcement. This is required to provide seat clearance to the reinforcement.
 - b. Floor panel deadener is to be laid back over the floor reinforcement as originally found.
 - c. Reinstall rear seat cushion.
14. Rear parking brake cables - install new longer rear parking brake cables and a new shorter intermediate parking brake cable. The reason for the new cables is to position the rear and intermediate cable attaching clip ahead of the added body bracket.

PROCEDURE "B" - CONVERSION OF VEHICLES EQUIPPED WITH PROVISIONS FOR ROUND RADIUS ROD

MATERIAL

<u>Part No.</u>	<u>Quantity</u>	<u>Description</u>
3920234	1	Rod Assembly
9/16" - 18 x 3"	1	Bolt
9422304	1	Nut (9/16" - 18 - 301M Steel)
131139	1	Lock Washer
5/8" - 18 x 3-1/2"	1	Bolt
9422306	1	Nut (9/16" - 18 - 301M Steel)
131140	1	Lock Washer
9414034	2	Nut
382588	2	Washer (25/64")
120382	2	Lock Washer
1/2" - 20 x 3-1/2"	1	Bolt
1/2"	1	Lock Washer
1/2" - 20	1	Nut
3920237	1	Stop
3920240	1	Bumper Assembly
3920241	1	Spacer
1/4" - 20 x 1/2"	1	Tap Screw

INSTALLATION

1. Radius rod installation must be performed with vehicle at curb load (vehicle weight plus full tank of gas).
2. Remove existing round radius rod from vehicle.
3. Inspect existing axle bracket for following:
 - a. To determine if the existing axle bracket contains the stop bracket attaching hole (see view "B" for location). If the axle bracket contains the bolt holes, attach one end of the rod to the body bracket. Attach the other end of the rod and stop bracket with bumper assembly and spacer to the axle bracket as shown in sketch.
 - b. If stop bracket attaching hole does not exist, proceed with steps 4, 5, and 6.
4. Radius rod and stop location.
 - a. Attach one end of rod to body bracket.
 - b. Attach rod to axle bracket (includes attaching stop bracket and bumper assembly).
 - c. Rotate stop until $1/4" \pm 1/8"$ (ref. View "C") clearance exists between the rod and the bumper.
 - d. Tack weld (using arc welder) the rod stop bracket to the existing axle bracket.

5. After tack welding, remove the rod and arc weld stop bracket in four places (ref. View "B").
6. Remount rod.

NOTE: THE MATERIAL LISTED IN THIS BULLETIN WILL BE AVAILABLE IN KIT FORM APPROXIMATELY JUNE 1, 1967. BOTH KITS WILL BE REQUIRED FOR INSTALLATION ON VEHICLES WITH NO PROVISIONS FOR A RADIUS ROD AND ONLY THE CONVERSION KIT WILL BE REQUIRED FOR THOSE VEHICLES EQUIPPED WITH A RADIUS ROD.

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QUANTITY PER VEHICLE</u>
3929299	ROD ASSEMBLY - INSTALLATION	1
3929559	ROD ASSEMBLY - CONVERSION	1

PARTS AND LABOR DATA - Install Gated Rod Assembly (No Provisions for Installation)

	<u>QUA.</u>	<u>PART NO.</u>	<u>PART DESCRIPTION</u>	<u>P F C L T</u>	<u>OPERATION NO.</u>	<u>TIME</u>
1.	1	3929299	Rod Assembly	X 58	E442090	3.3
2.	1	3929559	Rod Assembly			

PARTS AND LABOR DATA - Install Gated Rod with Provision But No Stop Bracket Attaching Holes

	<u>QUA.</u>	<u>PART NO.</u>	<u>PART DESCRIPTION</u>	<u>P F C L T</u>	<u>OPERATION NO.</u>	<u>TIME</u>
1.	1	3929559	Rod Assembly	X 58	E442091	.8

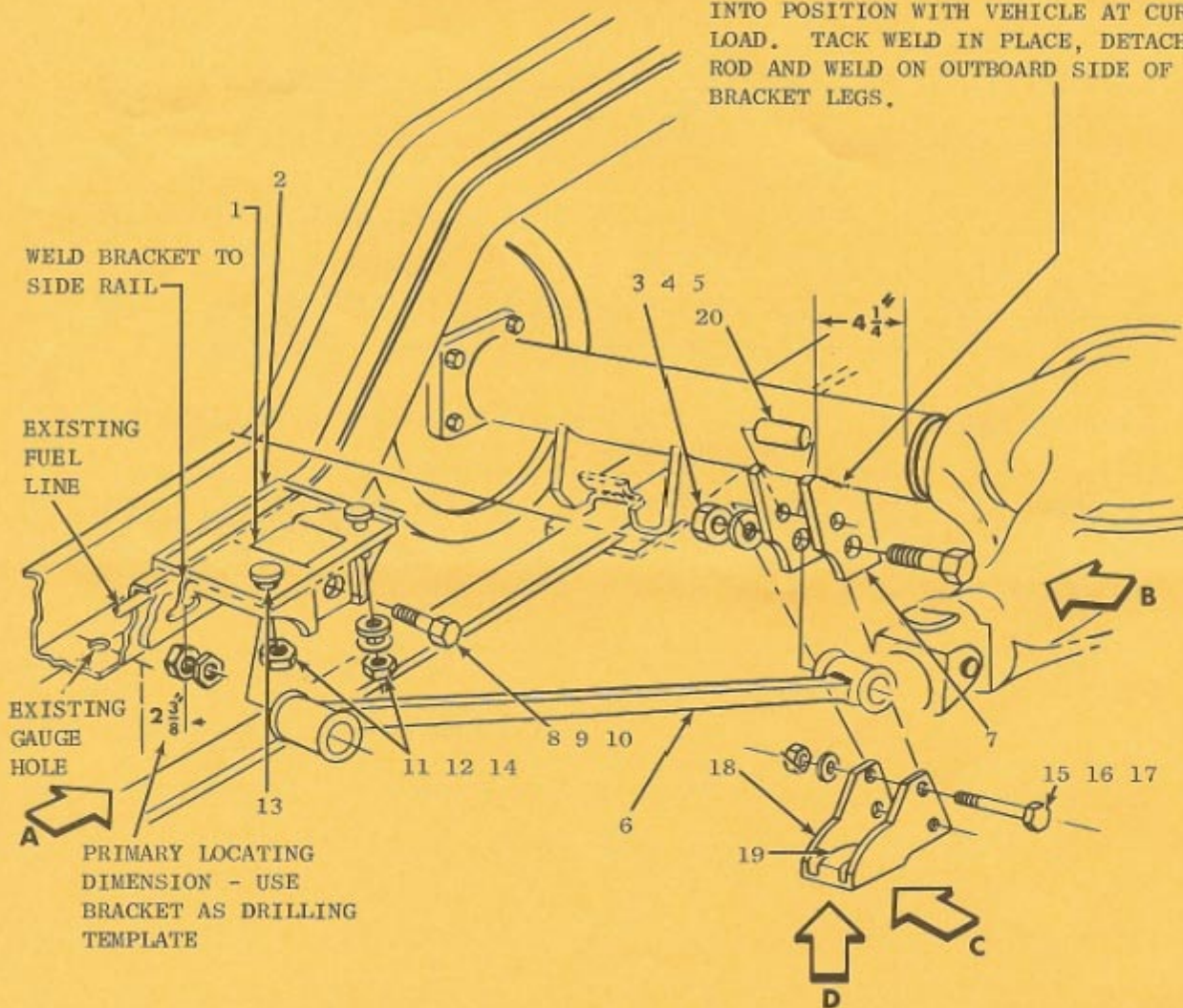
PARTS AND LABOR DATA - Install Gated Rod with Provisions and Stop Bracket Attaching Holes

	<u>QUA.</u>	<u>PART NO.</u>	<u>PART DESCRIPTION</u>	<u>P F C L T</u>	<u>OPERATION NO.</u>	<u>TIME</u>
1.	1	3929559	Rod Assembly	X 58	E442092	.3

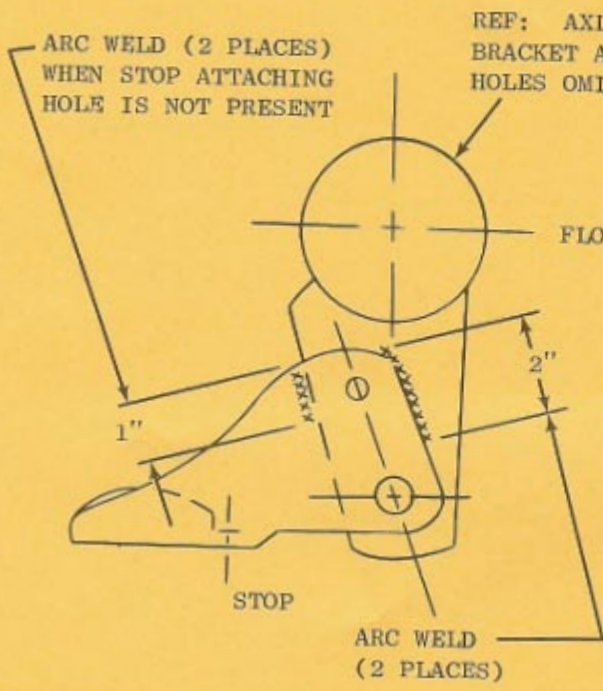
REAR AXLE RADIUS ROD INSTALLATION

- | | | | |
|----|---------------------|----|------------------------|
| 1 | BRACKET | 11 | 3/8-16 NUT |
| 2 | REINFORCEMENT ASM. | 12 | 25/64 WASHER |
| 3 | 9/16-18 301M NUT | 13 | SPECIAL WASHER |
| 4 | 5/8" L. WASHER | 14 | L. WASHER |
| 5 | 5/8-18 x 3 1/2 BOLT | 15 | 1/2-20 x 3 1/2 BOLT |
| 6 | ROD | 16 | 1/2" L. WASHER |
| 7 | BRACKET | 17 | 1/2-20 NUT |
| 8 | 9/16-18 x 3" BOLT | 18 | STOP |
| 9 | 9/16" L. WASHER | 19 | BUMPER ASM. |
| 10 | 9/16-18 301M NUT | 20 | SPACER |
| | | 21 | 1/4-20 x 1/2 TAP SCREW |

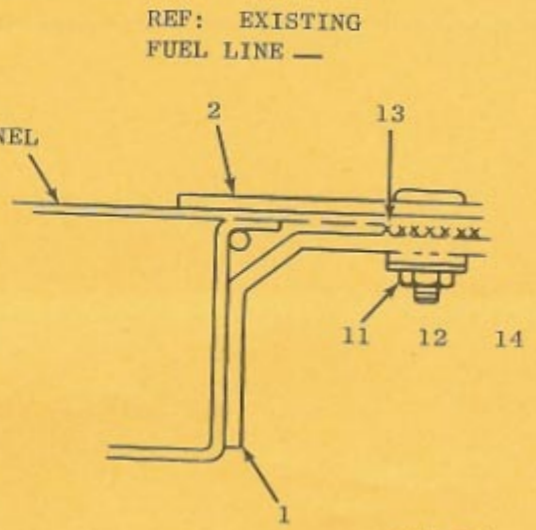
LOCATE AXLE BRACKET BY ATTACHING BRACKET TO RADIUS ROD (AFTER ROD IS MOUNTED TO THE BODY AND SWING INTO POSITION WITH VEHICLE AT CURB LOAD. TACK WELD IN PLACE, DETACH ROD AND WELD ON OUTBOARD SIDE OF BRACKET LEGS.



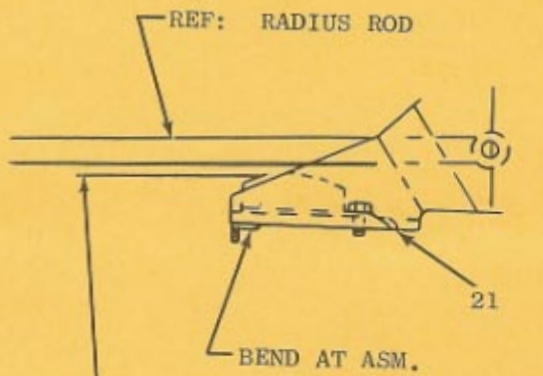
REAR AXLE RADIUS ROD INSTALLATION



VIEW B

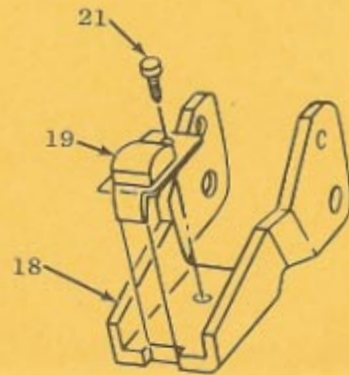


VIEW A



INSTALLED ROD TO BUMPER
RELATIONSHIP: $\frac{1}{4}$ INCH \pm $\frac{1}{8}$
@ CURB LOAD

VIEW C



VIEW D