

CAMS

5TH CATEGORY - HISTORIC RACING

GROUP Na

APPROVED VEHICLE SPECIFICATION

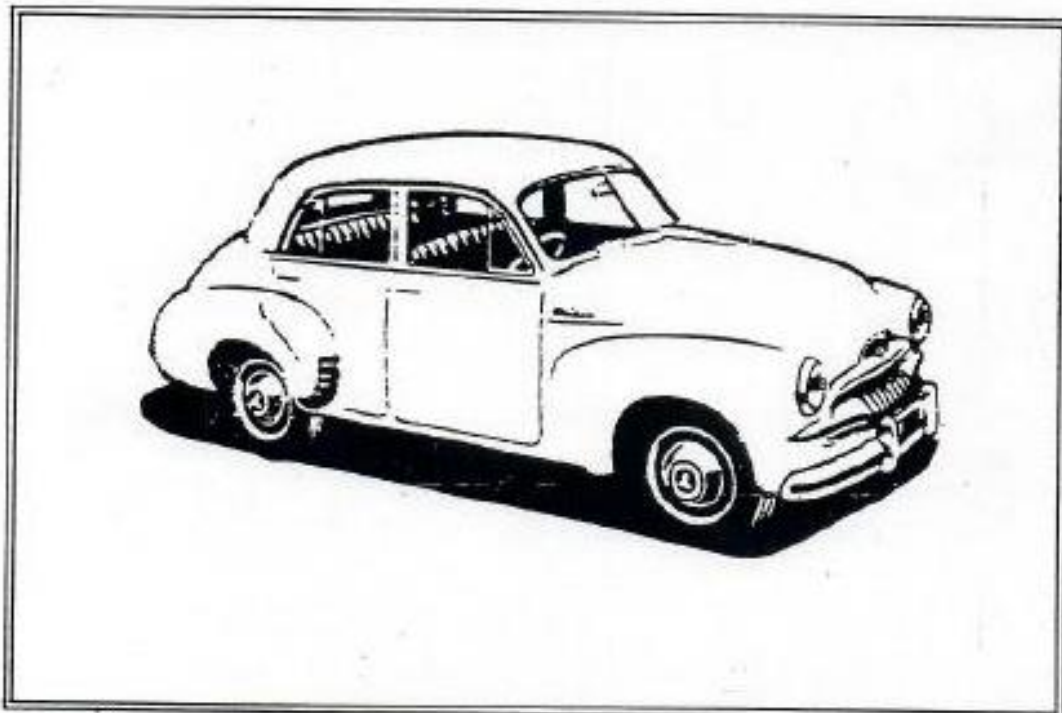
This form details the approved specifications of individual vehicle models in the 5th Category Historic car group. To be issued with an Historic Log Book, cars need to comply with these specifications, the physical appearance shown in the illustrations and the general historic rules as detailed in the current CAMS Manual of Motor Sport.

Make of Car: Holden **Model:** 48/215 ("FX") & FJ

Period of Original Manufacture: 1948 - 1956

CAMS Historic Group: Na

Date of Issue of this Document: 14 August 1997



SECTION 1 - CHASSIS

1.1 CHASSIS FRAME

Description: Unit Body Shell
Manufacturer: GMH
Chassis no. from:
Chassis no. location:
Material: Mild Steel
Comments:

Period of Manufacture:
1948 to 1956

1.2 FRONT SUSPENSION

Description: IFS Twin Wishbones
Spring medium: Coil
Damper Type: Tubular *
Anti-sway bar: No
Suspension adjustable: No

Adjustable: No
Adjustable: No
Method: N/A

Comments: *Earlier cars fitted with lever arm dampers. All cars approved for competition with tubular dampers.

1.3 REAR SUSPENSION

Description: Live Axle
Spring medium: Semi Elliptic Leaf
Damper type: Tubular *
Anti-sway bar: No
Suspension adjustable: No

Adjustable: No
Adjustable: No
Method: N/A

Comments: *Earlier cars fitted with lever arm dampers. All cars approved for competition with tubular dampers.

1.4 STEERING

Type: Worm & Sector
Comments:

Make: Holden

1.5 BRAKES

Type:	Front	Rear
Dimensions:	Drum	Drum
Material of drum/disc:	9" x 1.5"	9" x 1.5"
No. cylinders/pots per wheel:	Cast Iron	Cast Iron
Actuation:	1	1
Caliper: Make, Material, Type:	Hydraulic	Hydraulic
Master cylinder make:	Holden	
Adjustable bias:	Holden	Type: Single
Servo Fitted:	No	
Comments:	No	
	Tandem M/Cyl Allowed	
	Servo Allowed	

SECTION 2 - ENGINE

2.1 ENGINE

Make : HOLDEN Model : FJ & FX
Engine no. range :
No. cylinders : 6 Configuration : IN LINE FOUR stroke.
Block material : CAST IRON
Bore ; original : 76.2 mm Max. allowed : 77.7 mm
Stroke ; original : 79.4 mm Max. allowed : 79.4 mm
Capacity ; original : 2173 CC Max. allowed : 2260 CC
Cooling method : WATER
Identifying marks : NIL
COMMENTS : NIL

2.2 CYLINDER HEAD

Make : HOLDEN
No. valves per cyl : 2 Inlet : 1 Exhaust : 1
No of ports, total : 7 Inlet : 3 Exhaust : 4
No of camshafts : 1 Location : BLOCK Drive : GEAR
Valve actuation : OHV
Spark plugs per cyl. : 1
Identifying marks : -
COMMENTS : NIL

2.3 LUBRICATION

Method : WET SUMP Oil tank location : N/A
Dry sump pump type : N/A Location : N/A
Oil cooler standard : NO Location : N/A
COMMENTS : OIL COOLER ALLOWED

2.4 IGNITION SYSTEM

Type : DISTRIBUTOR AND COIL Make : BOSCH
COMMENTS : NIL

2.5 FUEL SYSTEM

Carburettor ; Make : STROMBERG Model : BXOV.1 No. : 1
Size :
Fuel injection ; Make : NO Type :
Supercharger : NO Type :
Make : N/A Drive :
COMMENTS : THREE STROMBERG CARBURETTORS ALLOWED
THROAT SIZE UNRESTRICTED

SECTION 3 - TRANSMISSION

3.1 CLUTCH

Make : BORG & BECK Type : COIL Dia. :
No. of plates : 1
Actuation : ROD
COMMENTS : NIL

3.2 TRANSMISSION

Make : HOLDEN Model : FJ & FX
Case material : CAST IRON
No. forward speeds : 3 Gearchange Type COLUMN CHANGE
Gearbox location : BEHIND ENGINE
COMMENTS : RATIOS FREE

3.3 FINAL DRIVE

Make : HOLDEN Model :
Wheel drive : REAR
Ratio : 4.375:1
Differential : FREE Type : HYPOID BEVEL
COMMENTS : RATIOS FREE

3.4 TRANSMISSION SHAFTS (EXPOSED)

No. 1 Location : TAILSHAFT
Description : TUBULAR
COMMENTS : NIL

3.5 WHEELS AND TYRES

Wheel, type; original : DISC	Material; original : STEEL																		
Allowed : DISC	Allowed : STEEL																		
Fixture method : BOLT ON	No. studs : 5																		
	<table><thead><tr><th></th><th>Front</th><th>Rear</th></tr></thead><tbody><tr><td>Wheel dia. & rim width</td><td>Original : 15 x 4"</td><td>15 x 4"</td></tr><tr><td></td><td>Allowed : 15 x 5"</td><td>15 x 5"</td></tr><tr><td>Tyre section :</td><td>Original : 590 x 15</td><td>590 x 15</td></tr><tr><td></td><td>Allowed : 195 x 15</td><td>195 x 15</td></tr><tr><td>Aspect ratio, minimum :</td><td>85%</td><td></td></tr></tbody></table>		Front	Rear	Wheel dia. & rim width	Original : 15 x 4"	15 x 4"		Allowed : 15 x 5"	15 x 5"	Tyre section :	Original : 590 x 15	590 x 15		Allowed : 195 x 15	195 x 15	Aspect ratio, minimum :	85%	
	Front	Rear																	
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	Allowed : 15 x 5"	15 x 5"																	
Tyre section :	Original : 590 x 15	590 x 15																	
	Allowed : 195 x 15	195 x 15																	
Aspect ratio, minimum :	85%																		
COMMENTS :	TYRES MUST BE FROM THE APPROVED TYRE LIST																		

SECTION 4 - GENERAL

4.1 FUEL SYSTEM

Tank location : IN BOOT FLOOR Capacity, litres : 40
Fuel pump; type : MECHANICAL Make : AC
COMMENTS : NIL

4.2 ELECTRICAL SYSTEM

Power supply : GENERATOR
Battery; location : R/H SIDE FIREWALL Voltage : 6
COMMENTS : NIL

4.3 BODYWORK

Type : SEDAN Material : STEEL
No. of seats : 5 No. doors : 4
COMMENTS : NIL

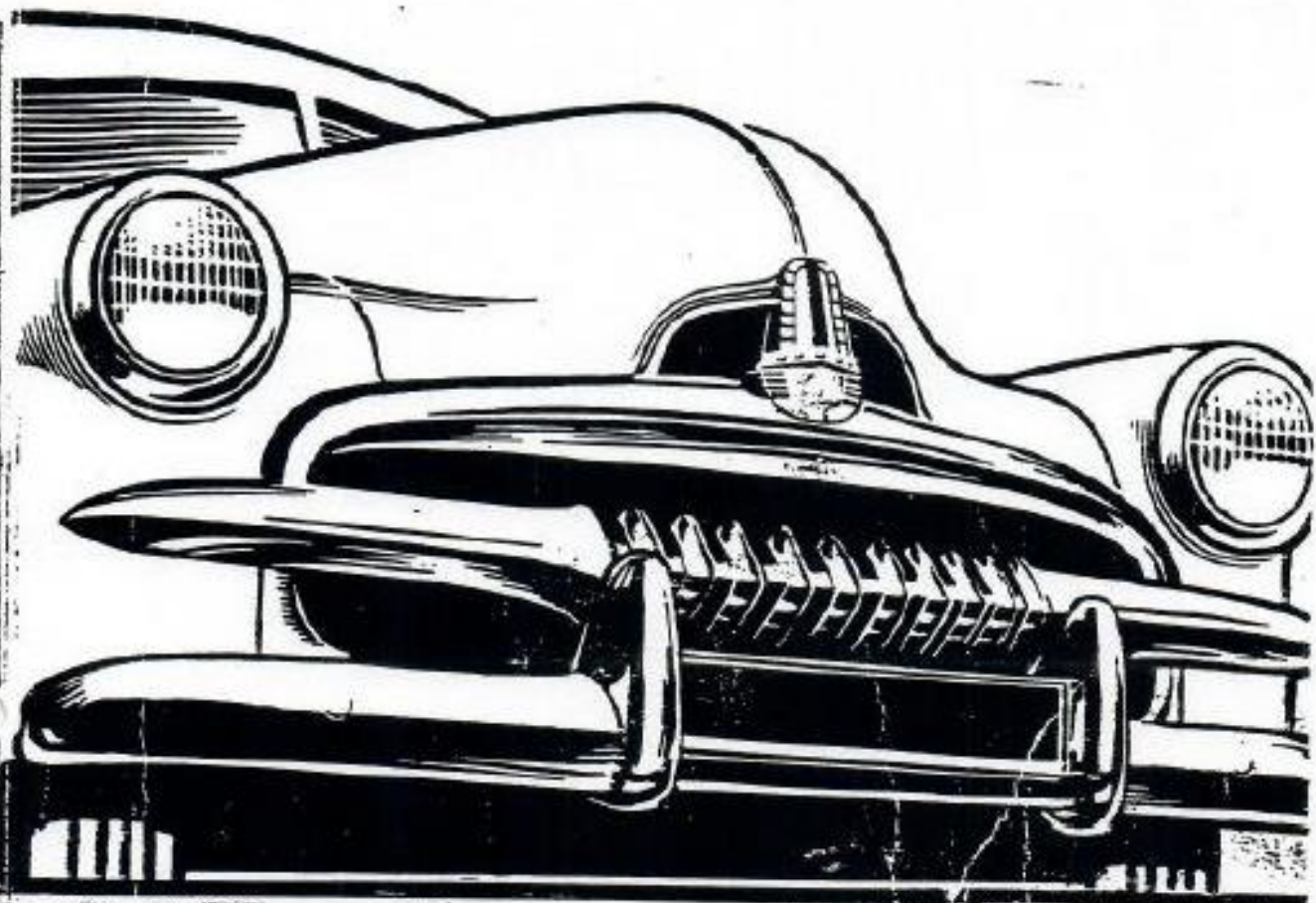
4.4 DIMENSIONS

Track; front : 1346 mm Track, rear : 1372 mm
Wheelbase; 2616 mm Overall length : 4394 mm
Dry weight : 1026 kg
COMMENTS : NIL

4.5 SAFETY EQUIPMENT

Fire Extinguisher : REQUIRED
Seat belt : REQUIRED
Roll bar : REQUIRED
Battery cut off switch : RECOMMENDED
Safety fuel tank : RECOMMENDED
COMMENTS : NIL

HOLDEN4



HOLDEN SHOP MANUAL

≡≡≡ "F.J." SERIES ≡≡≡

GENERAL MOTORS - HOLDEN'S LIMITED
SERVICE DIVISION

UNIT SERIAL NUMBER LOCATIONS

For the convenience of Dealers when writing up business papers such as Warranty Claim forms, Product Information Reports, or reporting product failures in any way, we are detailing below the location of the various unit numbers, which are necessary on such reports for reasons such as accounting, follow-up on Production, etc.

The inclusion of full serial numbers and their prefixes, when referring to any unit, permits quick and accurate identification of any suspected part, together with rapid finalization of Claims or queries.



ENGINE No.
R.H. Side



VEHICLE SERIAL No.
Front R.H. Side Member



BODY No., PAINT AND TRIM
Plate on Dash



GENERATOR
Serial and Model Nos.



STARTER MOTOR
Serial and Model Nos.



IGNITION DISTRIBUTOR
Serial and Model Nos.



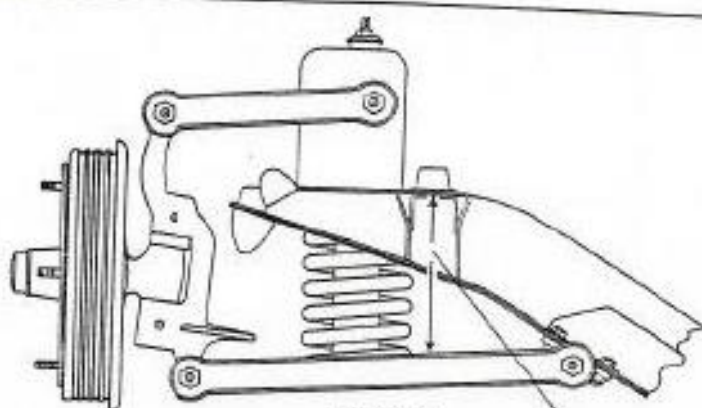
RADIATOR CORE
L.H. Side



TRANSMISSION No.
L.H. Rear



DIFFERENTIAL No.
R.H. Upper Flange



ALL MODELS.
 AT CAPACITY LOAD $5\frac{3}{8}''$ } + 3"
 AT KERS WEIGHT 6" } - 16"

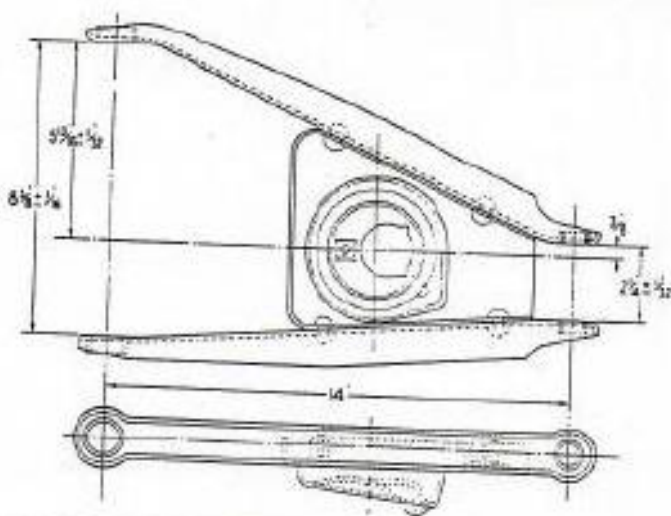
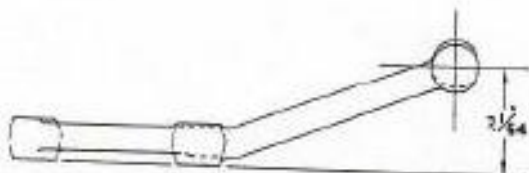
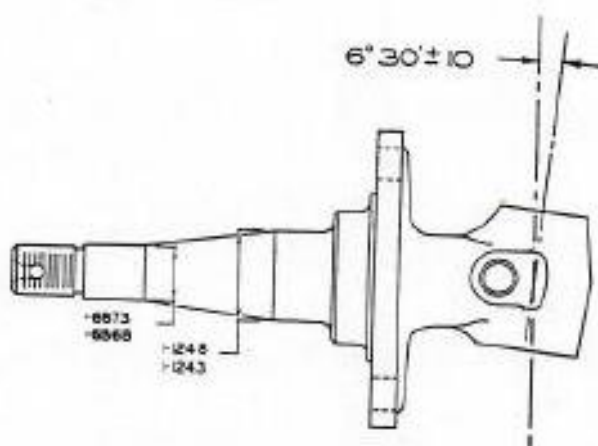
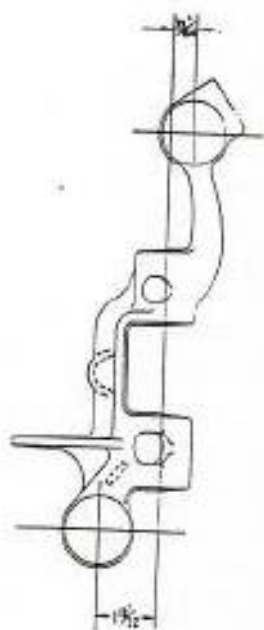


Fig. 3-33—Front Suspension Parts Checking Dimensions

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REAR AXLE 4-28

SEDAN	SEMI L.D.	S. PASS. L.D.	MODEL	SEMI L.D.	500 LBS. L.D.
STANDARD	$8\frac{1}{4} \pm \frac{1}{4}$	$6\frac{3}{32} \pm \frac{1}{4}$	UTILITY	$9\frac{7}{32} \pm \frac{1}{4}$	$7\frac{1}{4} \pm \frac{1}{4}$
SPECIAL	$8\frac{1}{4} \pm \frac{1}{4}$	$6\frac{3}{32} \pm \frac{1}{4}$	VAN	$9\frac{7}{32} \pm \frac{1}{4}$	$7\frac{1}{4} \pm \frac{1}{4}$
BUSINESS	$8\frac{7}{32} \pm \frac{1}{4}$	$7\frac{1}{32} \pm \frac{1}{4}$			

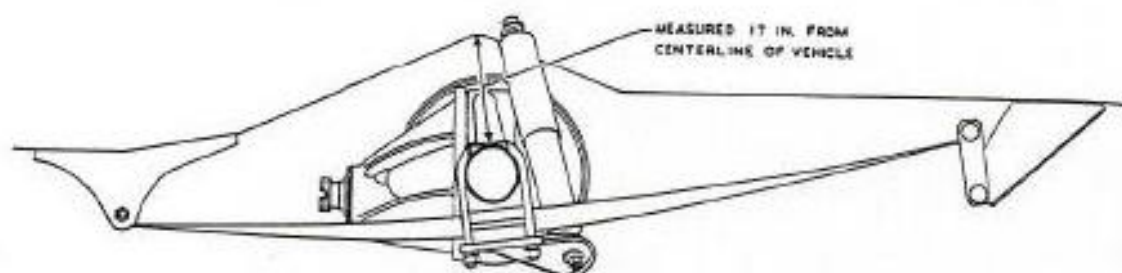


Fig. 4C-5—Rear Spring Height Checking Dimensions

NOTE: The rubber mounted spring seats require no lubrication. During vehicle lubrication periods ensure they are kept free from any kind of lubricant.

The "U" bolts locating the assembly in position are retained by lock nuts situated under the shock absorber mounting plates. When installing the assembly or checking the "U" bolts for correct tension, tighten the nuts to 15-20 ft. lbs.

Rubber bumpers fitted in retainers on the axle housing limit the bump travel of the axle. The retainers are channelled to fit under the "U" bolts.

REAR SPRINGS

The rear springs consist of four leaves on the Standard and Special Sedans and five on the Business Sedan, Utility and Van. Plastic inserts are fitted between leaves 1 and 2, 2 and 3, and 3 and 4, on both the four leaf spring and the five leaf spring to prevent squeaking. Fig. 4C-4.

NOTE: In latter production the Business Sedan rear spring (five leaf) was superseded by a four leaf spring assembly.

This latter spring has a lower deflection rate than the five leaf spring and provides a softer ride; how-

ever, its load carrying capacity is still maintained above the Special and Standard Sedan spring.

The four leaf Business Sedan differs from the Special and Standard Sedan spring in that the 1st and 3rd leaves are slightly longer and number 1 is also thicker.

All component parts of the rear springs are available for servicing. Rear spring height checking dimensions given in Fig. 4C-5.

Removal

1. With the vehicle jacked up sufficiently to relieve load on the springs, remove the road wheel and proceed as shown under "Rear Spring Mounting Removal."
2. Disconnect the rear shock absorber from the mounting plate.
3. Remove the "U" bolts which clamp the spring to axle, and lower the insulator, retainer, spring-shock absorber mounting plate and spring assembly.

Installation

Reverse to removal operations; however, ensure "U" bolts are tightened to the specified torque of 15-20 ft. lbs.

NOTES AND BULLETIN REFERENCES

DATE	BULLETIN NO.	PAGE NO.	SUBJECT

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SPECIFICATIONS
SECTION 6A—ENGINE

GENERAL

Type	6 cylinder, valve in head.
Bore and stroke	3 in. x 3½ in.
Piston displacement	132.5 cu. in. (2171.27 cc.).
Compression ratio	6.5 to 1.
Compression pressure at cranking speed	110 lbs./sq. in., or better.
R.A.C. and S.A.E. rating (Taxable Horsepower)	21.6.
Brake horsepower	60 at 3800 r.p.m.
Torque	100 ft. lbs. at 2000 r.p.m.
Piston speed	2085 ft./min. at 4000 r.p.m.
Firing order	1-5-3-6-2-4
Oil pan capacity	3 quarts (imp.).

CYLINDER BLOCK, CRANKCASE AND CYLINDER HEAD

Cylinder block, crankcase—type and material	Cast iron integral block and crankcase.
Cylinder bore size—standard	3.000 in. to 3.002 in.
Cylinder head—type and material	One piece, cast iron.
Head bolts—number and diameter	15 — ½ in. diam.

CRANKSHAFT, BEARINGS, FLYWHEEL, BALANCER

Crankshaft—type	Steel forging, integral counterweights.
Number of main bearings and thrust taken on	4.
Crankshaft end play	Front intermediate bearing.
Bearing type and material	.003 in. to .008 in.
Bearing adjustment	Steel backed babbitt lined, precision replaceable.
Bearing to journal clearance	None.
Bearing journal diameter (standard)	.0008 in. to .0034 in.
Oversize bearings serviced	1.9982 in. to 1.9992 in.
Bearing lengths—	.002 in., .010 in., .020 in., .030 in.
Front and rear	1.255 in. to 1.265 in.
Front intermediate	1.1865 in. to 1.1825 in.
Rear intermediate	.985 in. to .991 in.
Flywheel material	Cast iron.
Flywheel diameter	11 in.
Harmonic balancer—type	Steel flywheel cushioned on rubber.
Harmonic balancer location	Front end of crankshaft.

CONNECTING RODS, BEARINGS

Connecting rod—type	Steel forging, drilled and countersunk at small end, for piston pin lubrication.
Length, centre to centre	5.822 in. to 5.827 in.
Bearing type and material	Steel backed babbitt lined, precision replaceable.
Bearing adjustment	None.
Bearing to journal clearance	.0005 in. to .0026 in.
Bearing journal diameter (standard)	1.748 in. to 1.749 in.
Oversize bearings serviced	.002 in., .010 in., .020 in., .030 in.
Bearing length	1.012 in. to 1.822 in.
Rod end play on journal	.004 in. to .009 in.
Rod and piston assemblies removed from piston pin bushing—type and material	Top of cylinder block.
Piston pin to bushing clearance	Bronze, splash lubricated.
Piston pin bushing length	.0002 in. to .0003 in.
	.080 in. to 1.040 in.

PISTONS, RINGS, PINS

Piston—type and material	Aluminium alloy, cam ground anodized.
Piston length	3½ in.
Piston diameter (standard)	2.9985 in. to 3.0005 in.
Oversize pistons serviced	.010 in., .020 in., .030 in., .040 in.
Piston clearance in cylinder bore	.001 in. to .0015 in.
Piston rings used	2 compression, 1 oil control.
Piston ring location	Above piston pin.
Compression ring—	
Width	.0925 in. to .0935 in.
Thickness	.140 in. to .150 in.
Oil control ring—	
Width	.1860 in. to .1865 in.
Thickness	.129 to .133 in.; 2nd type (with expander), .104 to .111 in.
Oversize (diam.) piston rings serviced	.010 in., .020 in., .030 in., .040 in.
Piston ring gap (all rings)	.008 in. to .016 in.
Piston ring to groove clearance—	
Upper compression	.002 in. to .0030 in.
Lower compression	.0015 in. to .0030 in.
Oil control	.0010 in. to .0025 in.
Piston pin diameter	.7503 in. to .7568 in.
Oversize (diam.) pins serviced	.003 in. and .005 in.
Piston pin length	2½ in.
Piston pin fit in piston at 70°F.	Firm palm push fit.

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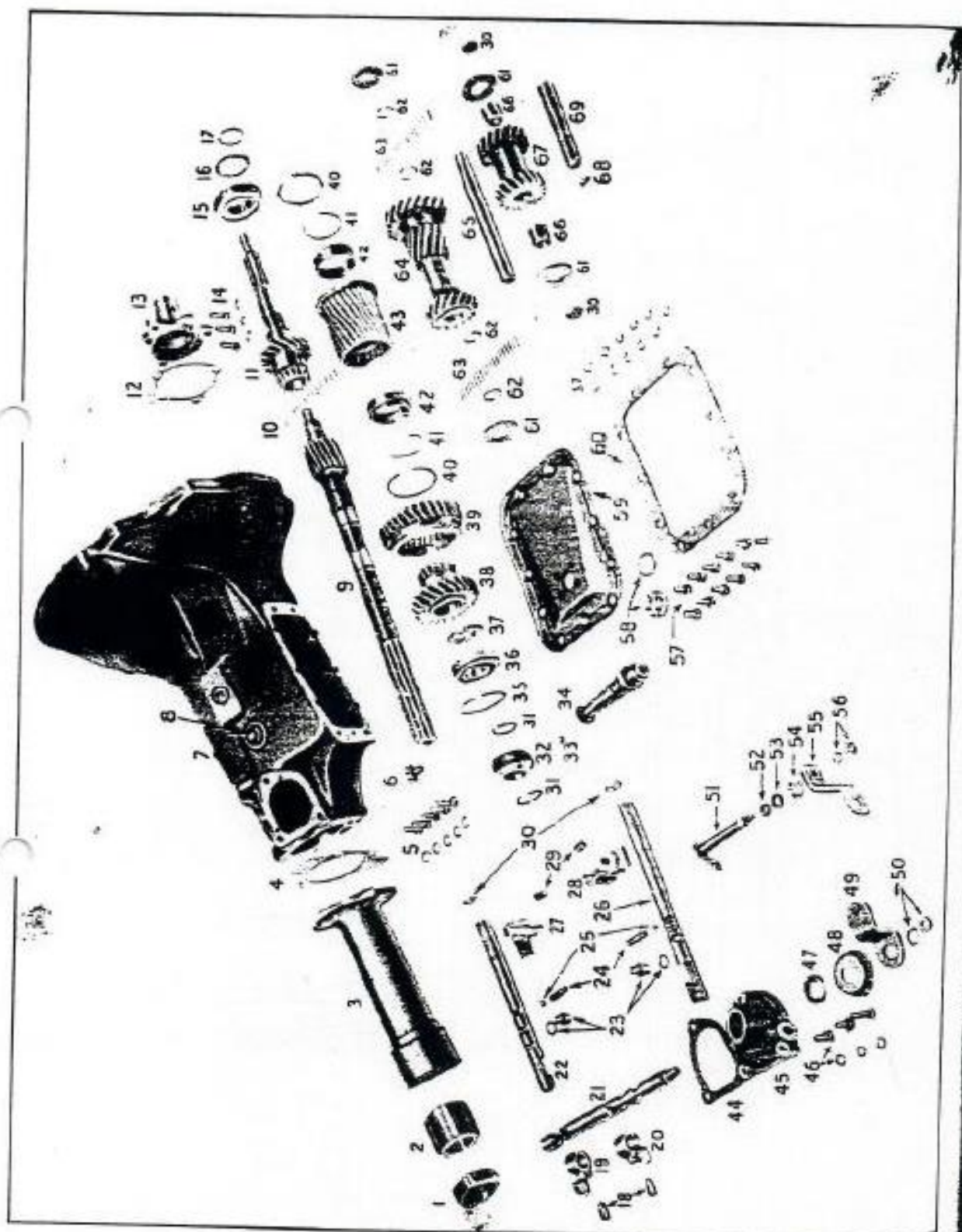


Fig. 7-10—Exploded View of Transmission

TRANSMISSION 7-4

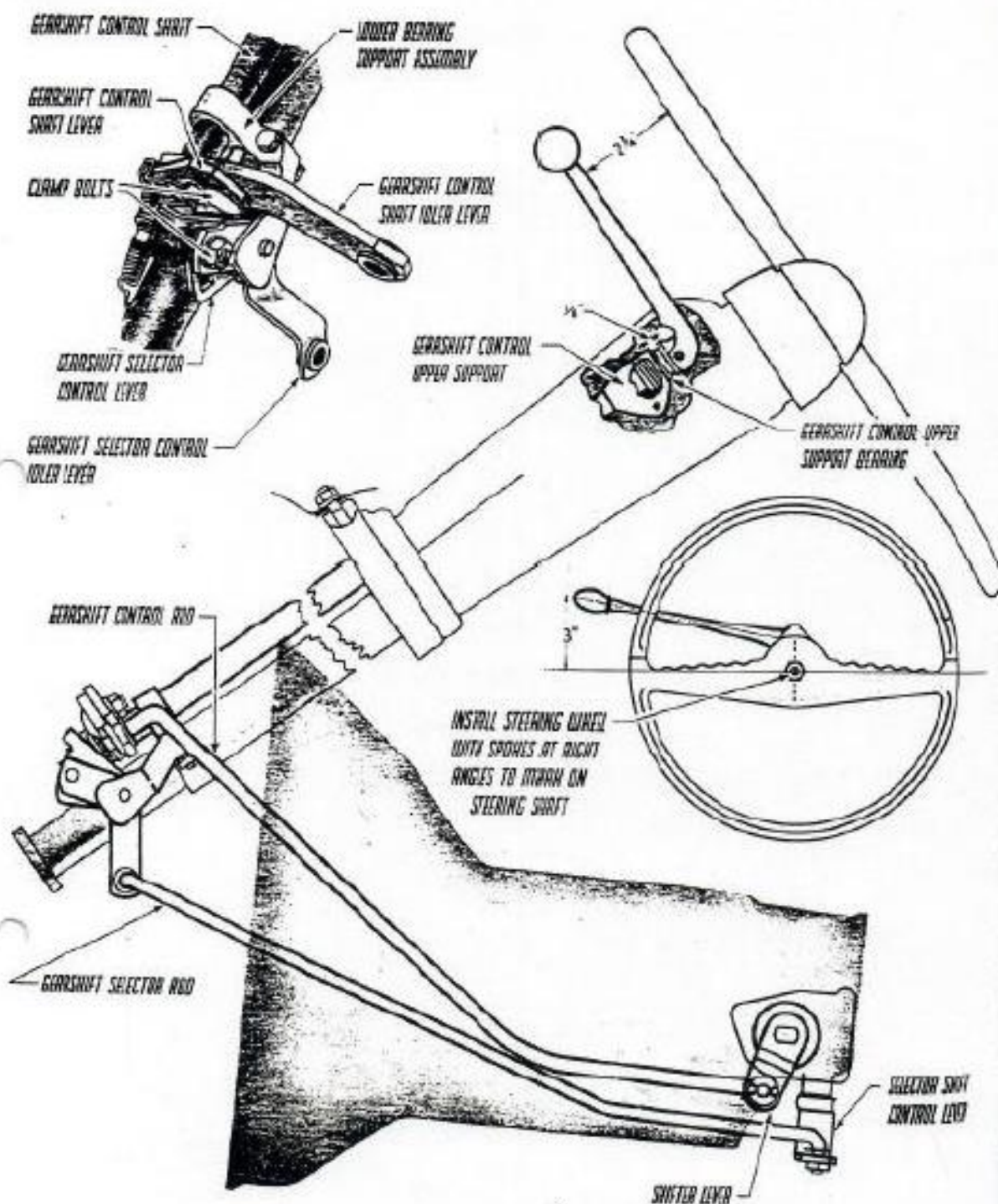


Fig. 7-5—Gearshift Linkage and Gear Lever Adjustment

7. Remove the upper bearing support screws. Do not lose the anti-rattle spring and cup which are located in a hole in the underside of the upper bearing sup-

port. The upper bearing and control shaft can not be removed by pulling the assembly up the steering column.

8. Remove the gear shift lever by depressing the spring-loaded pivot pins. Remove the anti-rattle washer. Take care not to lose the pivot pins and springs.

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