STUDEBAKER-PACKARD CORPORATION

Service Bulletin

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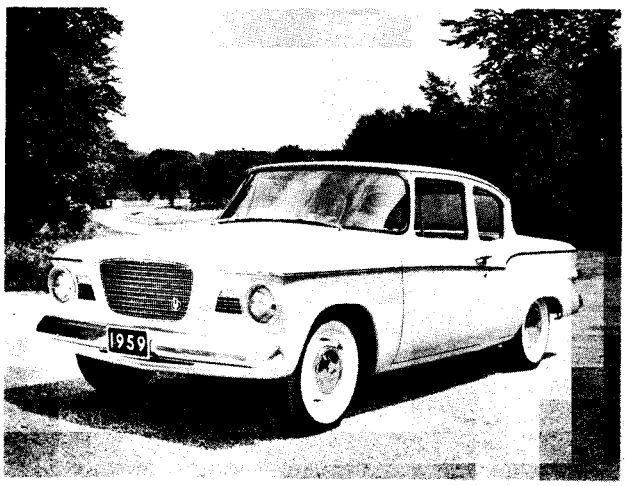
SOUTH BEND 27, INDIANA

THE 1959 STUDEBAKER PASSENGER CARS



MODEL IDENTIFICATION

BODY STYLE	MODEL	ENGINE	WHEELBASE
Z-Door Sedan	59S-F4	6 Cyl. - 170	108-1/2"
4-Door Sedan	59S-W4	6 Cyl. - 170	108-1/2"
2-Door Station wagon	59S-D4	6 Cyl. - 170	113"
2-Door sedan - Hardtop	59S-J6	6 Cyl. - 170	108-1/2"
4-Door Sedan	59S-W6	6 Cyl. - 170	108-1/2"
2-Door Station Wagon	59S-D6	6 Cyl. - 170	113"
* 4-Door Sedan - Taxicab	59S-Y1	6 Cyl. - 170	113 "
• 2-Door sedan	59V-F4	8 Cyl. - 259	108-1/2"
• 4-Door Sedan	59V-W4	8 Cyl. - 259	108-1/2"
* 2-Door Station Wagon	59V-D4	8 Cyl. - 259	113 "
sport coupe	59S-C6	6 Cyl. - 170	120-1/2"
sport coupe	59V-C6	8 Cyl. - 259	120-1/2"
4-Door sedan	59V-W6	8 Cyl. - 259	108-1/2"
2-Door Station Wagon	59V-D6	8 Cyl. - 259	113"
2-Door Sedan - Hardtop	59V-J6	8 Cyl. - 259	108-1/2"
• 4-Door Sedan - Taxicab	59V-Y1	8 Cyl. - 259	113"

• Fleet Sales only

The body symbol and body number are stamped on a plate fastened to the dash (underhood).

STARTING ENGINE NUMBERS

	59s	59v
South Bend	s-10,001	v-418701
Canada	SC-10,001	vc-14701

The engine number is on a machined pad at the upper left front of the cylinder block.

STARTING SERIAL NUMBERS

	59s	59v
South Bend	595-1 001	59V-1001
Canada	59SC-1001	59VC-1001

The serial number is on a plate attached to the left front door hinge pillar post.

BRAKES

SPECIFICATIONS

	59S-W,F,J,D,C	ALL 59V & 59S-Y1
Make	Wagner	Wagner
Type	self -centering self-Energizing	self-centering Self-Energizing
Brake Lining	Marshall-Eclipse	Marshall-Eclipse**+*
Drum Type	convent ional	conventional*+*
Drum Size - Front	10" (25,4 cm.)	11" (27,94 cm.)
Rear	9" (22,86 cm.)	10" (25.4 Cm.)
Lining - Length Per Shoe		
Front - Primary	8-15/32" (21,5 cm.)	9-21/64" (23,6 cm.) (Note 1)
Secondary	10-53/64" (27,5 cm.)	11-57/64" (30,2 cm.)
Rear - Primary	7-9/16" (19.2 cm.)	8-15/32" (21,5 cm.)
Secondary	9-3/4" (24,8 Cm.)	10-27/32" (27,6 cm.)
Width - Front Wheel	2" (50,8 mm.)	2-1/4" (57,2 mm.)
Rear wheel	2" (50,8 mm.)	2" (50,8 mm.)
Thickness	3/16" (4,76 mm.) •	3/16" (4,76 mm.)**
Total Braking Area	147.4 sq. In. (951,38 sq. cm.)	173,4 Sq. In.-W,F,J,D,C 195.3 Sq. In.-Yl (1111,98 sp. cm.) (1260,08 Sq. Cm.)
Division of Braking Power		
Front	62%	62%
Rear	38%	38%
Parking Brake Lever Operates	Rear Service Brakes	Rear service Brakes

• Front wheel secondary shoe lining is 1/4" (6,35 mm.) thick.

•⊠ Front Wheel secondary shoe lining is 7/32" (5,56 mm.) thick. Marshall-Eclipse lining on Y1 front wheel primary and secondary shoes is 7/32" thick.

*** Air cooled rib drum on 59S-Y1 and 59V-Y1 Models

•⊠⊠ Marshall-Eclipse Heavy Duty lining bonded to the shoe on all Y1 Taxicab. Johns-Mansville bonded heavy duty lining optional on Yl models.

Note 1 - On Y1 all front wheel linings are 11 1/2" (29,21 cm.). Rear wheel linings are 10 7/16" (26,51 cm.).

CLUTCH

SPECIFICATIONS

	59S-Except Y1	59V-Except Y1	59S-Y1	59V-Y1
Make	Borg & Beck	Borg &Beckl	Borg & Beck	Borg & Beck
Vibration Damper	Yes	Yes	Yes	yes
clutch Driven Discs	1	1	1	1
clutch Facings	composition	composition	Molded Asbestos Front Steelback-Metallic Rear	composition
Facing - Inside Diameter	5-3/8" (15,56 cm.)	6" (15,24 cm.)	6" (16,5) cm.)	6-1/2" (16,5) cm.)
Facing - Outside Diameter	8" (23,18 cm.)	10" (25,4 Cm.)	9-1/4" (23,5 cm.)	10-1/2" (26,87 Cm.)
Facing - Thickness	.125" (3,175 mm.)	.125" (3,175 mm.)	.140" (3,56 Cm.)	.125" (3,175 mm.)
Facings Required	2	2	2	2
Pedal Free Play	1" (25,40 mm.)	1" (25,40 mm.)	1" (25,40 mm.)	1" (25,40 mm.)
clutch spring Pressure	1100	1594	1557	2054
Number of Springs	6	9	9	9
clutch Release Bearing	pre-Lubricated Ball	Pre-Lubricated Ball	Pre-Lubricated Ball	Pre-Lubricated Ball

COOLING

SPECIFICATIONS

	59S	59V
capacity		
U. S. Quarts	11*	17*
Imperial Quarts	9.2*	14.2*
Liters	10,4*	16,1*
Radiator core		
Make	McCord	McCord
Type	cellular-Tubular	cellular-Tubular
Frontal Area	437.8 Sq. In. (2825 Sq. cm.)	437.8 SqU.In. (2825 sq. cm.)
Radiator Outlet Hose		
Inside Diameter	1-1/4" (31,75 mm.)	1-1/2" (38,1 mm.)
Type	Molded Elbow	Molded Elbow
Radiator Inlet Hose		
Inside Diameter	1-1/4" (31,75 mm.)	1-1/2" (38,1 mm.)
Type	Molded Elbow	Molded Elbow
Fan Belt		
Length (outside)	40" (101,6 cm.)	57" (144,8 cm.)
width (Nominal)	.380" (9,652 mm.)	.380" (9,652 mm.)
Angle of vee (Pulley)	38° - 40°	38° - 40°
Thermostat Opens	170° F	170° F
Radiator cap Relief Valve Pressure	13 lbs.	13 lbs.

* Add 1 Qt. for Climatizer on W,F,J,D,Y Models. Add 1-1/2 Qts. on C Models with Climatizers.

ELECTRICAL SYSTEM

SPECIFICATIONS

	59S	59V
IGNITION		
Coil - Make	Auto-Lite	Delco-Remy
- Model	CAF4 003A	1115122
Resistor	10,000 Ohm in Dist. cap	20,000 Ohm in Dist. Rotor
		Delco-Remy 1927809 1.40-1.65 Ohms (Externally Mounted)
Distributor		
Make	Auto-Lite	Delco-Remy
Mode 1	IAT-4103	1110864
Centrifugal Advance Maximum Crankshaft Degrees	14° at 2800	24° at 2400
vacuum Advance Maximum Crankshaft Degrees	18° at 12" HG	16° at 12" HG
Spark Timing	2° BTDC	4° BTDC
Distributor Point cap	.020" (0,51 mm.)	013" - .018" (0,33 mm. -0,46 mm.)
cam Angle	38° - 400	28^0 - 340
Distributor Breaker	17 - 20 oz. (482-567 grams)	19 - 23 OZ. (539-652 grams)
Firing order	l-5-3-6-2-4	l-8-4-3-6-5-7-2
spark Plug - Make	Champion	champion
- Type	J7	H18-Y
- Gap	.028" - .033" (0,71-0,84 mm.)	.033" - ,038" (0,84-0,96 mm.)
- Thread	14 mm.	14 mm.
BATTERY		
Make	wil lard	Willard
Model	HO-11-50	HO-11-50
voltage	12	12
Amp. Hours	50	50
Plates Per cell	9	9
Specific Gravity	1.260	1.260
Terminal Grounded	Negative	Negative
STARTER		
starter Motor - Make	Auto-Lite	Delco-Reay
- Model	MBG-4103	1107650 Conv. & O.D. 1107851 Auto.
Brush Spring Tension	42 - 33 oz. (1190-1503 gr.)	35 oz. min. (992 gr.)
No. of Pinion Teeth	9	9
No. of Flywheel Teeth	151	162

ELECTRICAL System-Cont'd.

GENERATOR	59S	59V
Make	Auto-Lite	De lco-Remy
Mode 1	GJC-7002-F	1102003
Brush spring Tension	18 - 36 oz. (510-1021 gr.)	24 - 32 oz. (680-907 gr .)
Maximum Controlled Charging Rate		
Temperature -	70°F. 21°C.)	70°F. (21°C.)
Amperes	28 - 32	27 - 33
Voltage	14.2 - 14.95	14.65 - 15.65
Current and voltage Regulator		
Make	Auto-Lite	Delco-Remy
Mode 1	VRX-6008A	1119123
cut-out Relay		
voltage at Closing	13.0 - 13.75	13.8 - 14.8
Temperature	70°F. (21°C.	70°F. 21°C.)
Air Gap	.031" - .034" (0,79-0,86 mm.)	.020" (0.51 mm.)
Voltage Regulator		
Volts	14.2 - 14.95	14.65 - 15.67
Temperature	70°F. (21°C.)	70°F. (21°C.)
Air Gap	.048 - 0052" (1,22-1,32 mm.)	.075" (1,90 mm.)

LAMP BULBS

LOCATION	VOLTAGE and NUMBER
Headlight - single	12-16 sealed Beam No. 5400-S
Instruments - W,F,D,Y,J,	12-16 No. 1445
Instruments - C Models	12-16 Mazda No. 57
Ignition Switch	12-16 Mazda No. 1445
Trunk	12-16 Mazda NO. 57
Dose	12-16 Mazda No. 1004
License plate	12-16 Mazda **No.** 67
High Beam Indicator	12-16 Mazda NO. 1445
Directional Signals	
Front & Parking Lamp	12-16 Mazda No. 1034
Rear Tail Light & Stop	12-16 Mazda No. 1034
Tell-Tale	12-16 Mazda No. 1445
Back-Up Light	12-16 Mazda No. 1141
Glove Compartment	12-16 Mazda No. 57
Radio	12-16 Mazda **No.** 1891
Clock	12-16 Mazda No. 1445
Cigar Lighter	12-16 Mazda No. 1445
Oil Pressure Indicator	12-16 Mazda No. 1445
Generator Charge Indicator	12-16 Mazda No. 1445
Auto. Transmission selector Indicator	12-16 Mazda No. 1445

ELECTRICAL System-Cont'd.

CIRCUIT BREAKER AND FUSES	AMPERES	LOCATION
Circuit Breaker		
Head, Parking, Tail, Back-up and Instrument Lights	20	on headlight switch
windshield Wiper	5	In Wiper switch
Fuses		
Body and Stop Lights	AGC-15	In block behind instrument panel
overdrive	SFE-14	In Kick-Down Switch-To-Solenoid Cable
Radio	AGW-7-1/2 .	In lead behind instrument panel
Directional Signal	AGC-15	In fuse block behind instrument panel
Electric Clock	1 AC 3	In lead behind instrument panel
Climatizer and Defroster	SFE-14	On Climatizer and defroster switch
Cigar Lighter	Thermal	Back of Socket

ENGINE 170

SPECIFICATIONS

Number of cylinders	6
Cylinder Bore	3" (76,2 mm.)
Stroke	4" (101,6 mm.)
Piston Displacement - Cu. In.	170
- Cu. Cm.	2766
Horsepower (N.A.C.C.)	21.6
compression Ratio - Standard	6.3 to 1
- optional	7.0 to 1
standard compression Pressure at Cranking Speed (Approx.)	130 to 150 lbs. at 150 rpm
Firing order	l-5-3-6-2-4
PISTONS AND RINGS	
Piston Material	Aluminum co. of America F-132 Cam Ground-Tin Plated T Slot
Piston Clearance	Selective Feeler Fit
Oil Rings Per piston	1
Width of Gil Ring	5/32" (3,97 mm.)
Oil Ring Side Clearance	.0015"-.004" (0,038-0,102 mm.)
Compression Rings Per Piston	2
Width of Compression Rings - Top	3/32" (2,380 mm.)
- Middle	1/8" (3,175 mm.)
Ring end Gap	.007 "- .017" (0,178 mm.-0,432 mm.)
compression Ring side Clearance	. 002 "-. 005" (0,051 mm.-0,127 mm.)
RODS AND PINS	
Pin Diameter	. 7491 "- .7495 (19,027 mm.-19,037 mm.)
Pin Locked or Floating	Locked in Rod
Pin Clearance	.0001"- . 0003" (0,025 mm.-0,075 mm.) (selective Fit)
Connecting Rod Journal Diameter	1.81175"-1.81275" (46,02 mm.-46,04 mm.)
Connecting Rod Bearing Effective Length	7/8" (22,22 mm.)
Type	Interchangeable
Material	Steel-baclced Babbitt-lined
Connecting Rod Bearing Clearance	.005"-.002" (0,013 mm-0,0508 mm.)
connecting Rod Side Clearance	.005"-,009" (0,127 mm.-0,230 mm.)
Connecting Rod Length (center of pin hole to center of bearing bore	6-3/8" (161,9 mm.)
Connecting Rod orrset	1/16" (1,588 mm.)
Rods and Pistons Removed	From Top

ENGINE 170-Cont'd.

CRANKSHAFT	
Vibration Damper Type	Runner Mounted Disc
End Thrust Carried By	Front Bearing
Crankshaft End play	.003"-.006" (0,076 mm.-0,152 mm.)
Main Bearing - Type	Interchangeable
- Material	steel-backed Babbitt-lined
- Removable from Below	Yes
Main Bearing Clearance	.0005"-.002" (0,013 mm.-0,064 mm.)
Main Bearing Journal - Diameter	3.0623"-3.0628" (77,782 mm.-77,795 mm.)
Main Bearing Journal Effective Length - No. 1	1-1/32" (26,19 mm.)
- No. 2	1-3/32" (27,78 mm.)
- No. 3	1-3/32" (27,78 mm.)
- No. 4	1-1/2" (38,10 mm.)
crankshaft Gear - Material	Cast Iron
- Make	own
CAMSHAFT	
Camshaft Drive	Gear
Camshaft Journal Diameters	
No. 1	1.7475"-1.7480" (44,360 mm. -44,372 mm.)
No. 2	1.7162"-1.7170 (43,591 mm. -43,612 mm.)
No. 3	1.6857"-1.6865" (42,817 mm.-42,837 mm.)
No. 4	1.6232"-1.6240" (41,229 mm.-41,250 mm.)
Camshaft Bushing Clearances	
No. 1	.0007"-.0022" (0,018 mm.-0,056 mm.)
No. 2	.0010"-.0027" (0,026 mm.-0,069 mm.)
No. 3	.0010"-.0027 (0,026 mm.-0,069 mm.)
No. 4	.0010"-.0027" (0,026 mm.-0,069 mm.)
camshaft Gear - No. of Teeth	52
camshaft End Play	.003-.006" (0,076 mm. -0,152 mm.)
VALVES	
valve Stem Diameter	5/16" (7,94 mm.)
valve Lift	11/32" (8,73 mm.)
operating Valve Clearance Intake	.018" (0,457 mm.) cold
Exhaust	.018" (0,457)mm.) cold
valve seat Angle	45°
Narrowing Cutter Angle - Top	30°
- Bottom	70° - 75°
valve Head Diameter - Inlet	1-11/32" (34,13 mm.)
- Exhaust	1-9/32" (32,54 mm.)
Valve Spring Pressures - open	93 lbs.-103 lbs. at 1-5/16" (42,18 kgs. -46,72 kgs. at 33,34 mm.)
Tappet Clearance for Checking Valve Timing	.020" (0,508 mm.)
Intake Opens	15° Before U.D.C.
Intake Closes	49° After L.D.C.
Exhaust opens	54° Before L.D.C.
Exhaust Closes	10° After U.D.C.
ENGINE LUBRICATION	
TYpe	Full pressure
oil Pump	spiral Gear
Normal pressure	20-40 lbs. at 40 m.p.h.
Oil Pressure Gage	Light on W,F,D,J,Y Direct Reading - C
Oil Filter (opt.)	Partial flow
Oil Pump Intake	stationary

ENGINE 259

SPECIFICATIONS

Number of cylinders	8
Cylinder Bore	3-9/16" (90,49 mm.)
stroke	3-1/4" (82,55 mm.)
Piston Displacement	259.2 Cu. In. (4248 cu. cm.)
Horsepower	40.6
Compression Ratio	8.8 to 1
- Optional	7.5 to 1
standard Compression Pressure at cranking Speed (Approx.)	140-160 lbs. at 150 rpm
Firing order	l-8-4-3-6-5-7-2

CRANKSHAFT

End Thrust Carried on	Front Bearing
vibration Damper Type	Rubber Mounted Disc
crankshaft End Play	,003 "-. 006" (0.76 mm-O,152 mm.)
Main Bearing - Type	Replaceable
- Material	Steel-backed Micro-babbitt lined
- Removable from Below	Yes
Main Bearing Clearance	.005"-.0025" (0,013 mm-0,064 mm.)
Main Bearing Journal Diameter	2.4995"-2.5000" (63,49 mm.-63,50 mm.)
Main Bearing Effective Length	
No. 1	1" (24,3 mm.)
No. 2	7/8" (22,2 mm.)
NO. 3	7/8" (22,2 mm.)
No. 4	7/8" (22,2 mm.)
No. 5	1-33/64" (38,5 mm.)
Crankshaft Gear - Material	Cast Iron
- Make	own

CAMSHAFT

Camshaft Drive	Gear
camshaft Bearing Diameter and Length - NO. 1	1,86975"-1.87075 x 7/8" (47,492 mm.-47,517 mm. x 22,23 mm.)
No. 2	1.85375"-1.85475" x 11/16" (47,085 mm.-47,111 mm. x 17,46 mm.)
No. 3	1.83875"-1.83975" x 11/16" (46,704 mm.-46,730 mm. x 17,46 mm.)
No. 4	1.82275"-1.82375 x 11/16" (46,398 mm.-46,323 mm. x 17,46 mm.)
No. 5	1.24475"-1. 24575" x 1-3/8" (31,617 mm.-31,642 mm. x 34.93 mm.)
Camshaft Bushing Clearance- No. 1	0.00075"-0.00225" (0,019 mm.-0,057 mm.)
No. 2, 3, 4 and 5	0.001"-0.00275" (0,0254 mm. -0,0699 mm.)
Camshaft End Play	.003 "- .006" (0,076 mm.-0,152 mm.)

PISTONS AND RINGS

piston Material	Aluminum co. of America F-132 Cam Ground-Tin Plated Trans. Slot
Piston clearance	Selective Feeler Fit
Oil Ring - Number per Piston	1
- Width	.1855 "- .1865" (4,712 mm.-4,737 mm.)
- Gap	.008" .016" (0,203 mm.-0,407 mm.)
- Side Clearance	.0015"-.005" (0,038 mm.-0,127 mm.)
Compression Ring	
Number	2
Width	.077"-.078" (1,956 mm.-1,981 mm.)
Gap	.008"-.016" (0,203 mm.-0,407 am.)
side Clearance	.002"-.005" (0,051 mm.-0,127 mm.)

ENGINE 259-Cont'd.

RODS AND PINS	
Pin Diameter	.8741 "- .8745" (22,202 mm.-22,212 mm.)
Pin Locked or Floating	Locked in Rod
pin Clearance	.0001"-.0003 (Selective Fit) (0,0024 mm.-0,0076 ma.)
crank Pin Journal - Diameter	1.99925"-2.00025" (50,781 mm. -50,806 mm.)
connecting Rod Bearing	
Effective Length	13/16" (20,64 min.) (2 Rods side by Side)
Type	Interchangeable
Material	Steel-backed Babbitt-Lined
connecting Rod Bearing clearance	.005"-.002" (0,0127 mm. -0,0508 mm.)
Connecting Rod Side clearance	.008"-.013" (0,20 mm. -0,33 mm.)
Connecting Rod, Center-to-Center, Length	6-5/8" (168,3 mm.)
Rods and Pistons Removed	From Top
VALVES	
Valve Stem Diameter	11/32" (a,73 mm.)
valve Stem Clearance	.0015"- .0035" (0,38 mm.-0,089 ma.)
Valve Lirt	23/64" (9,126 ma.)
valve Clearance Adjusting Screw Torque	30 in-lbs. (0,346 kg-m.)
operating Clearance	
Intake and Exhaust (Hot)	.023 "-. 025" (0,584 mm. -0,635 mm.)
Intake and Exhaust (Cold)	.025'" .027" (0,635 mm.-0,666 mm.)
clearance for Checking Valve Timing	.030" (0,762 mm.)
valve seat Angle	45°
Narrowing Cutter Angle - Top	30°
- Bottom	70°
valve Head Diameter - Inlet	1-21/32" (42,07 mm.)
- Exhaust	1-17/32" (38,89 mm.)
valve spring Pressures - Open	105-115 lbs. at 1-43/64" (47,63-52,16 kgs. at 42.46 mm.)
TIMING	
Intake opens	11° Before U.D.C.
Intake Closes	54" 36' Arter L.D.C.
Exhaust opens	51° 36' Before L.D.C.
Exhaust closes	14° After U.D.C.
ENGINE LUBRICATION	
Type	Full-pressure
Oil Pump	spur Gear
Normal pressure	20-40 lbs. at 40 mph
oil Pressure Gage	Light - W,F,D,J,Y
	Direct Reading - C
oil Filter (opt.)	Partial Flow
Oil Pump Intake	stationary

FRAME

SIDE RAIL - THICKNESS

MODEL	DOMESTIC	EXPORT	CANADA
59S - W,F	.0747" - 14 Gage	.1196" (3,038 mm.)	.0747" (1,897 mm.)
59V - W.F	.0897" - 13 Gage	.1196"	.0897" (2,278 mm.)
59S – 59V - D	.0897" - 13 Gage	.1196"	.0897"
59S - 59V - J	.1196" - 11 Gage	.1196"	.1196" (3,038 mm.)
59S - 59v - Y	.1196" - 11 Gage	.1196"	.1196"
59s - 59v - c *	.0897" - 13 Gage	.1196"	.1196"

• Approximate 1884 frames with .0747 (14 Ga.) side rails used on 59S-C.

Frame Cross Members - 59S - 59V W,F,J,D,Y Models - 4
59s - 59v c Models - 5

FRONT SUSPENSION

A link type front stabilizer bar is used on all 59V models only. The stabilizer bar link bracket is bolted to the frame. The link is connected to the frame bracket and to this stabilizer bar through rubber bushings.

SPECIFICATIONS

	59s	59V
Front Wheel Toe-In	1/16" - 1/8" (1,589 mm.-3,174 mm.)	1/16 - 1/8" (1,589 mm.-3.174 mm.)
Caster Angle •	-1° to -2-1/2°	-1° to -2-1/2°
Front Wheel Camber Angle • *	oo to +1°	oo to +1°
King Pin Inclination	6° at 0° camber	6° at 0° camber
Turning Diameter (Right)	c Models 41' (12,50 m.)	c Models 41' (12,50 in.)
	W.F.J. Models 37'6" (11,43 m.)	W.F.J. Models 37'6" (11,43 m.)
	Y.D Models 39' (11,89 m.)	Y,D models 39' (11,89 m.)
(Left)	C Models 41' (12,50 m.)	c Models 41' (12.50 m.)
	W.F.J. Models 37' 6" (11.43 m.)	W.F.J Models 37' 6" (11,43 m.)
	Y.D Models 39' (11,89 m.)	Y,D Models 39' (11,89 m.)
Tread - Front	57-3/8" (145.7 cm.)	57-3/8" (145,77cm.)
Rear	56-9/16" (143,7 cm.)	56-9/16" (143.6 cm.)
Inside wheel Angle with Outside wheel at 20	23-1/2° - 24-1/2°	23-1/2° - 24-1/2°

• Not more than 3/4° variation between wheels,
** 1/2° more camber favored on driver's side.

STEERING

SPECIFICATIONS

	59S-W,F,J,D Excpet RHC kodels	59V All 59S-C,Y1-LHC 59S-W, F, J, D-RHC	59SC RHC Models
Steering Gear			
Type	cam & Twin Lever	cam & Single Lever Roller Stud	Cam & Twin Lever
Make	Ross TA-12	Ross SL-54	Ross TL-12
Ratio (Gear)	15.4-13.5-15.4	20-22-20	18.5-16.5-18.5
Ratio (overall)	25-19.5-25	27.5-24.5-27.5	26-21.5-26
Wheel Turn Lock to Lock	5	4-1/2	5-1/2
Steering wheel Size	17" (4,32 m.)	17" (4.32 m.)	17" (4.32 m.)

	59V C Model	59V W,F,D,J,Y Models
FOWER STEERING		
Steering Gear		
Type	Worm & Roller	Cam & Single Lever Roller Roller Stud
Make	Saginaw	Ross SL-54
Ratio (Gear)	21.3 to 1	20-22-20
Ratio (overall)	20-18.2-20	27.5-24.5-27.5
wheel Turn Lock to Lock	4-1/4	4-1/2
power Units	Saginaw	Bendix
Power Pump	Saginaw	Eaton
power Pump Belt Deflection at Center	1/4"=3/8" - 4 lbs. (6,45 mm.-9,53 mm.-1,81 kgs.)	3/16"-1/4"-4 lbs. (4,76 mm.-6,45 mm.-1,81 kgs.)

GASOLINE SYSTEM

SPECIFICATIONS

	59s	59V
Gasoline Tank capacity	18 U.S. Gal. 15 Imp. Gal. 68,1 Liters	18 U.S. Gal. 15 Imp. Gal. 68,1 Liters
Fuel Pump - Make	AC	Carters
pressure	3-1/2 to 5 p.s.i. (0,25-0,35 Kg. per sq. cm.)	3-1/2 to 5 p.s.i. (0,25-0,35 kg. per sq. cm.)
Carburetor - Make	Carter	Stromberg 2 bbl. Carter 4 bbl.
Model	AS-2876S	WW6 123 WCFB-2829S Std. & O.D. 2830S Flightomatic
Size	1-1/4 In.	1-1/8 In.
Air cleaner Type	Dry (No silencer) or Oil Bath on W4,F4,D4 and Y1 Dry with Silencer or Oil Bath on W6,F6,D6,C6	Dry with Silencer or Oil Bath-2 bbl. carb Dry with Silencer - 4-bbl. carb.

LUBRICATION

CAPACITIES

	59s			59v		
	U.S.	Imp.	Liters	U.S.	Imp.	Liters
Engine oil Pan	5 Qts.	4.20 Qts.	4,75	5 Qts.	4.20 Qts.	4,75
Oil Level Gage Location	Left Rear			Right Rear		
Oil Filler Location	Left Front			Front Center		
Rear Axle	W, F, J, C, D Models			W, F, J, C Models		
	2.50 Pts.	2.10 Pts.	1,20	2.50 Pts.	2.10 Pts.	1,20
	Y Model			Y, D Models		
	3.00 Pts.	2.50 Pts.	1,50	3.00 Pts.	2,50 Pts.	1,50
Transmission						
Standard						
W,F,J,C,D,	2.3 Pts.	1,9 Pts.	1,1	3,8 Pts.	3,3 Pts.	1,8
Yl - Taxi	3.5 Pts.	2.9 Pts.	1,6	2.8 Pts.	2.3 Pts.	1,3
Overdrive						
W,F,J,C,D	3.15 Pts.	2.61 Pts.	1,48	4,06 Pts.	3.40 Pts.	1,91
Flightomatic						
Fluid Level check	Thru Role in Front Floor Pan					
W,F,J,C,D	18 Pts.	15.0 Pts.	8,46	18 Pts.	15.0 Pts.	8,46
Yl - Taxi	19 Pts.	15.8 Pts.	8,93	19 Pts.	15.8 Pts.	8,93

PROPELLER SHAFT AND UNIVERSAL JOINTS

SPECIFICATIONS

Universal Joint -	Make	Spicer - All Models
	Type	Needle Bearing
	Number	2
	Lubricated With	Universal Joint Lubricant

PROPELLER SHAFTS - DIAMETER AND LENGTH

Car Model	Trans. Type	Axle Model	Tube Dia.	Prop. Length	Grease Fittings	Tube Silencer
*59S-W, F, J,	Std. & O.D.	23	2" (5,08 cm.)	47-15/32" (12,06 m.)	NO	No
**59S-W, F, J	Std. & O.D.	23	2-1/4" (5,72 cm.)	47-15/32" (12,06 m.)	No	No
59V-W,F,J	Std. & O.D.	23	2-1/4"	(11,64 m.)	No	No
59V & 59S-W,F,J,	Flightomatic	23	2-1/4"	46-15/32" (11.80 m.)	No	No
59S-D	Std. & O.D.	23	2-1/2" (6,45 cm.)	51-31/32" (13,20 m.)	No	NO
59S-D	Flightomat ic	23	2-1/2"	51-3/32" (12,97 In.)	No	No
59V-D	Std. & O.D.	44	3" (7,62 cm.)	49-23/32" (12,62 m.)	No	No
59V-D	Flightomatic	44	3"	50-11/32" (12,78 m.)	No	No
59S-C	Std. &.O.D.	23	2-3/4" (6,98 cm.)	53-25/32" (13,66 m.)	No	No
59V-C	Std. & O.D.	23	2-3/4""	52-3/32" (13,23 m.)	No	No

PROPELLER SHAFT AND UNIVERSAL Jointes-Cont'd.

Car Model	Trans. Type	Axle Model	Tube Dia.	Prop. Length	Grease Fittings	Tube Silencer
59s & 59V-C	Flightomatic	23	2-1/2"	52-19/32" (13,35 0.)	No	No
59S-Y1	Std. and Fllghtomatlc	44	2-1/2"	50-3/32 " (12.72 m.)	Yes	Yes
59V-Y1	Std.	44	2-1/2"	49-7/8" (12,67 m.)	Yes	Yes
59V-Y1	Flightomatic	44	2-1/2"	50-3/32"	Yes	Yes

* Use with 3.54 and 3.73 axle ratios.
**Use with 4.10 and 4.27 axle ratios.

Propeller Shaft phasing: 0° with model 23 axles.
12° with model 44 axles.
Tube wall thickness - .062-.067" (1,57 mm. -1,70 mm.) all shafts.

REAR AXLE

SPECIFICATIONS

Standard or Twin Traction Axle

	59S-W,F,J,D,C	59S-Y1	59V-W,F,J,C	59V-D,Y1
Make	Spicer	Spicer	Spicer	Spicer
Model	23-1	44-3	23-1	44-3
Type	Semi-floating	Semi-floating	Semi-floating	semi-floating
Type or Drive	Hypoid	Hypold	Kypoid	Kypoid
Lubricant Capacity	2.5 U.S. Pts. 2.08 Imp. Pts. 1,175 Liters	3.0 U.S. Pts. 2.5 Imp. Pts. 1,43 Liters	2.5 U.S. Pts. 2.08 Imp. Pts. 1,175 Liters	3.0 U.S. Pts. 2.5 Imp. Pts. 1,43 Liters
Type Gear	Hypoid	Hypoid	Hypoid	Kypold
Backlash-Pinion & Gear	.003"-.006" (0,0776-0,015 mm.)	.003"- .006" (0,076-0,015 mm.)	.003"-.006" (0,076-0,15 mm.)	.003"-. 006" (0,076-0,15 mm.)
Minimum Road Clearance under Center of Axle	W.F.J.D.7-21/32" (19.45 cm.) c 8-1/16" (20,48 cm.)	7-9/16 " (19.21 cm.)	W,F,J 8-1/16" (20,48 cm.) c-a-15/32" (21,51 Cm.)	Y1-7-15/16" (20.16 cm.) D-7-9/16" (19,21 cm.)

Rear Axle Ratios

	59S		59V	
STANDARD GEAR RATIO				
With Standard Transmission	W4,F4	3.54	W,F,J,D,Y1	3.31
	J6,W6,D4	3.73	C	3.54
	C	4.10		
	Yl	4.09		
With Overdrive Transmission	W4 F4	3.73	W,F,J,D	3.54
	W6,F6,J6	4.10	C	3.73
	C,D	4,27		
With Fllgntomatic Transmission	3.54		3.31	

REAR Axle-Con'd.

OPTIONAL GEAR RATIO

With standard Transmission	W4,F4	4.10-3.73	W,F,J,D,Y1	3.53-3.73
	W6,F6,J6	3.54-4.10	C	3.31-3.73
	D	4,10-4.27		
	C	3.73-4.27		
	Y1	4.41		
With Overdrive Transmission	W4,F4	3.54-4.10	W,F,J,D	3.31-3.73
	W6,F6,J6	3.54-3.73	C	3.31-3.54
	D,C	3.73-4.1-		
with Flightomatic Transmission	No Option		3.54	

SPRINGS AND SHOCK ABSORBERS

SPECIFICATIONS

FRONT SPRINGS

Type - Coil (Variable Rate) All Except Heavy Duty Springs.

		59S		59V	
		Dia.	Color	Dia.	Color
wire Diameter and Color					
Standard	W,F,J,D,C	.565	white	.587	Orange
	Y1	.650	Purple	.660	Brown
Heavy Duty	W,F,J,D,C	.650	purple	.660	Brorh

REAR SPRINGS

Size		
W,F,J,D,Y1 Models	2-1/2" x 51" (6,45 cm.x129,5 cm.)	2-1/2" x 51" (6,35 cm.x129.5 cm.)
C Models	2-1/2" x 54" (6,45 cm.x137,2 cm.)	2-1/2" x 54" (6,35 cm. x137,2 cm.)
Length Front End to center Bolt		
W,F,J Models	20" (50,8 cm.)	20" (50,8 cm.)
D,Y1 Models	20-1/2" (52,57 cm.)	20-1/2" (52.57 cm.)
c Models	21" (53,34 cm.)	21" (53,34 cm.)
Standard Number of Leaves	4-W,F,J,C 5-D 4-Y1 (plus 2 helper leaves)	4-W,F,J 50C,D 4-Y1 (plus 2 helper leaves)

shackle Length - All Models - 3" (76,2 mm.)
Inside Diameter, Front Bushing - All Models - 1.490" (37,85 mm.)
Diameter Rear Bushing - All Models - .865" (21,97 mm.)

SHOCK ABSORBERS

Make" Gabriel Non-adjustable - (Gabriel Adjustable H.D - Optional)
Type: Direct Acting - 1" Dia. except Y1 Models

Y1 Models - Heavy duty non-adjustable shock absorbers are standard equipment - 1-5/8" dla,

TRANSMISSION

car Model	STANDARD 59s	59s	59v	59v	OVERDRIVE 59s	59v
Body Type	W,F,J,D,C	Y1	W,F,J,D,C	Y1	W,F,J,D,C	W,F,J,D,C
Trans. Model	T96	T90-B	T66	T89-C	T-96	T-86
Gear Ratio - High	1.0	1.0	1.0	1.0	1.0	1.0
- Second	1.630	1.85	1.55	1.75	1.640	1.55
- Low	2.605	3.34	2.57	3.17	2.605	2.57
- Reverse	3.535	4.531	3.48	3.76	3.535	3.48
- overdrive					.7	.7
Lube. capacity	2.3	3.5	3.8	2.8	3.15	4.06
- U.S. Pts.	2.3	3.5	3.8	2.8	3.15	4.06
- Imp. Pts.	1.9	2.9	3.2	2.3	2.61	3.40
- Liters	1,1	1,6	1,8	1,3	1,48	1,91
Overdrive Cut-In speed - Miles Per Hour					25-34	25-34

Flightomatic

car Model	59s	59s	59v	59v
Body Type	W,F,J,D,C	Y1	W,F,J,D,C	Y1
Trans. Model	AS 4-5H	AS 2.7E	AS 6-5P	AS 10-7A
Serial Plate color	Red	Green	White	copper
Converter - Model	CD	CD	FB	FB
- color	Black	Black	Yellow	Yellow
Max. stall Speed Engine RPM	1350-1450	1350-1450	1550-1650	1550-1650

ALL 59S AND 59V MODELS

Trans. Gear Ratio - Drive Range				
1st	Torque converter	X	2.40-1	Gear Ratio
2nd	" "	X	1.47-1	" "
3rd	" "	x	1.00-1	" "
Low Range	" "	X	2.40-1	" "
Reverse Range	" "	x	2.00-1	" "

WHEELS AND TIRES

Safety rim type wheels are standard on all models. Four-ply tubeless tires are standard equipment. Six-ply tubeless tires are available as optional equipment. captive-Air tires are used when the Hide-A-Way (third) seat is installed in a station wagon.

SPECIFICATIONS

	59S	59V
wheels, Type	- Drop center - Safety	Rim
Rim size	15 x 4-1/2k	15 x 4-1/2k
Bolt circle	4-1/2" (11,43 cm.)	4-1/2" (11,43 Cm.)
Tires - Make	U.S. Rubber, Firestone, Goodrich, *Goodyear	

INFLATION PRESSURE = COLD

59s

Tire Size = Standard = W.F.J	5.90x15	4-ply	Front - 24 lbs.	Rear - 20 lbs.
C	6.40x15	4-ply	" 24 lbs.	" 20 lbs.
D	5.90x15	4-ply	" 26 lbs.	" 28 lbs.
Y1	6.40x15	4-ply	" 24 lbs.	" 22 lbs.
opt ional - W,F,J,C	6.40x15	4-ply	" 24 lbx.	" 20 lbs.
C,Y1	6.70x15	4-ply	" 24 lbs.	" 20 lbs.
*Captive Air - D	6.70x15	I-ply	" 24 lbs.	" 22 lbs.

WHEELS AND TIRES

59Y

Tire Size - Standard -	W,F,J	6.50x15 4-ply	Front -	24	lbs.	Rear - 20 lbs.
	D	6.40X15 4-ply	"	24	lbs.	" 24 lbs.
	Y1	6.70x15 4-ply	"	24	lbs.	" 20 lbs.
	C	6.70x15 4-ply	"	24	lbs.	" 20 lbs.
*Captive Air =	D	6.0x15 4-ply	"	24	lbs.	" 22 lbs.
optional =	W,F,J	6.70x15 4-ply	"	24	lbs.	" 24 lbs.
	D	6.70x15 4-ply	"	24	lbs.	" 24 lbs.

* Station Wagon with Hide-a-way (third) seat.

Note - Under conditions where loads in excess of four passenger weight is considered normal, 26 lbs. pressure front and rear is recommended where four-ply tires are used. If six-ply tires are used a maximum pressure at 30 lbs. front and rear is permissable

CARTER AS-2876-S CARBURETOR

The model AS-2676-S Carter carburetor is a downdraft unit. Its accessible adjustments and combined body and flange casting make it an easy-to-service assembly. All castings are of aluminum. The metering rod, step-up jet rod, step-up piston and step-up piston spring may be replaced without disassembly.

Five conventional systeas are used in this carburetor, They are: 1) Float system, 2) Low-speed system, 3) High-speed system, 4) Pump system and 5) choke system.

FLOAT SYSTEM

Twin floats, which follow the contour of the bowl are designed to provide a stable fuel supply under all operating conditions. The floats are separate units, but operate together by means of overlapping tangs on the rloat lips. see Fig. 1.

The bowl vent is calibrated to provide proper air pressure above the fuel at all times. To assure a positive seal, always use a new bowl cover gasket when reassembling. An air leak at this point can result in a mileage or stalling complaint.

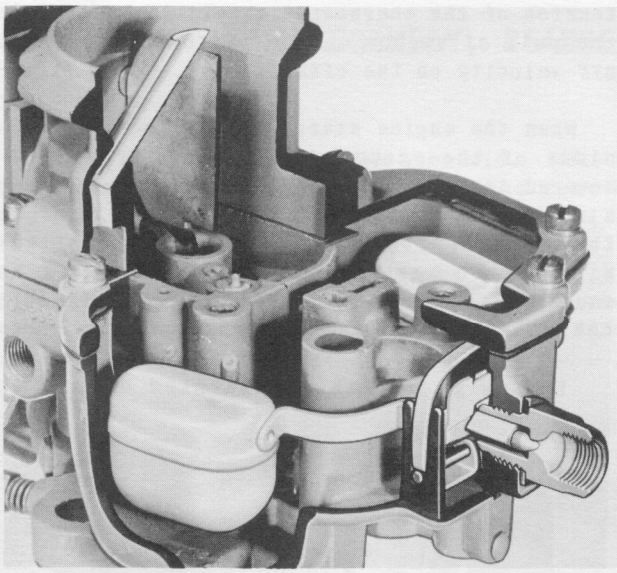


Fig. 1 - FLOAT SYSTEM

LOW-SPEED SYSTEM

Fuel for idle and early part throttle operation is metered through the low-speed system. (See Fig. 2).

Gasoline enters the idle well through the metering rod jet and step-up jet. The low-speed jet measures the amount Of fuel for idle and early part throttle operation. The air by-pass, economizer and idle air bleed are carefully calibrated and serve to break up the liquid fuel and mix it with the air as it moves through the passage to the idle port and idle adjustment screw port. Turning the idle adjustment screw towards its seat reduces the quantity of fuel mixture supplied by the idle system. The idle port is slot shaped. As the throttle valve is opened, more of the idle port is uncovered allowing a greater quantity of gasoline and air mixture to enter the carburetor bore.

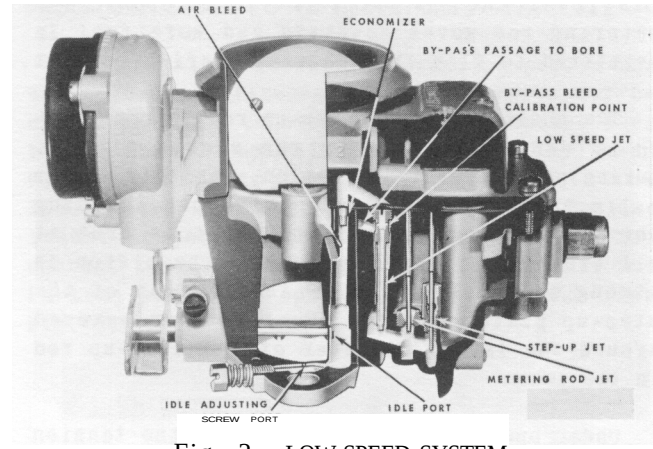


Fig. 2 - LOW-SPEED SYSTEM

HIGH-SPEED SYSTEM

Fuel ror part throttle and full throttle Operation is supplied through the high-speed system. (see Fig. 3)

The position or the metering rod in the metering rod jet and the step-up rod in the step-up rod jet, controls the amount of fuel admitted to the high-speed nozzle,

The metering rod is larger in diameter at

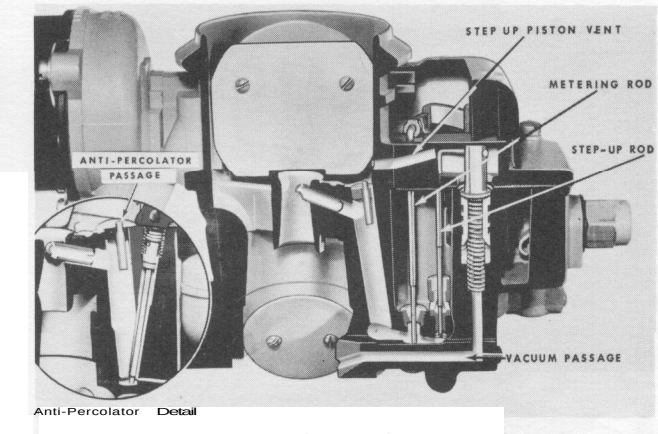


Fig. 3 - High-Speed SYSTEM

its lower end. As the throttle is opened the metering rod moves downward and more Fuel is permitted to flow through the metering rod jet.

The position of the step-up rod is controlled by vacuum applied to the vacuum piston. During part throttle operation, manifold vacuum pulls the step-up rod Assembly down, holding the step-up rod in the jet. This is true at all times that the vacuum under the piston is strong enough to overcome the tension of the step-up piston spring. Fuel is then metered around the larger diameter of the step-up rod in the jet.

Under operating conditions, when the tension of the spring overcomes the pull of vacuum under the piston, the step-up rod will move out of the jet into the power position. This allows fuel to be metered through the jet. The step-up rod does not require adjustment.

Anti-percolator passages and calibrated plugs are used to prevent vapor bubbles in the nozzle passage and low-speed well, which are caused by heat, from rorcing fuel out of the nozzle. purpose is to vent the vapors and relieve the pressure before it is surricient to push the fuel out or the nozzle and into the intake manifold.

The anti-percolator plugs, bushings and the main nozzle are permanently installed and MUST not be removed in service.

PUMP SYSTEM

The accelerating puap system provides a measured amount of fuel, which is necessary to assure smooth engine operation for acceleration. (see Fig. 4)

When the throttle is closed, the pump plunger moves upward in its cylinder and fuel is drawn into the cylinder through the intake Check. The discharge check is seated at this time to prevent air being drawn into the cylinder. When the throttle is opened the pump plunger moves downward forcing fuel out through the discharge passage, past the discharge check and out the pump jet. When the plunger moves downward, the intake check is closed preventing fuel from being forced back into the bowl. when the throttle is opened, the pump spring moves the piston to force fuel through the pump discharge jet. The calibration of the pump spring and the size of the Jet provides a pump discharge of the desired duration.

When the pump plunger is stationary, the intake check is not seated. This permits fuel vapor pressure caused by heat to be relieved through the intake passages located in the plunger shaft. The pump jet is pressed into the casting during manufacture and the intake check retainer is pressed into the plunger. The parts MUST not be removed in service.

CHOKE SYSTEM

When the engine is cold, the tension Or the thermostatic coil holds the choke valve closed. when the engine is started, the air velocity against the offset choke valve causes the valve to open slightly against the thermostatic coil tension. Intake manifold vacuum applied to the choke piston also tends to pull the choke valve open. The choke valve assumes a position where tension of the thermostatic coil is balanced by the pull of vacuum on the piston and force of air velocity on the offset valve. (See Fig. 5)

When the engine starts, slots located in the sides of the choke piston cylinder are uncovered to allow intake manifold vacuum to draw air, heated by the exhaust manifold. through the choke control housing. The flow of warm air in turn heats the thermostatic coil and causes it to lose its tension gradually until the choke valve reaches rull-open position.

If the engine is accelerated during the

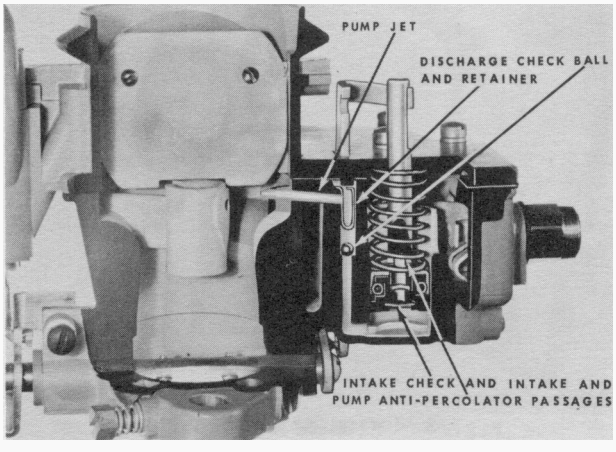


Fig 4. - PUMP SYSTEM

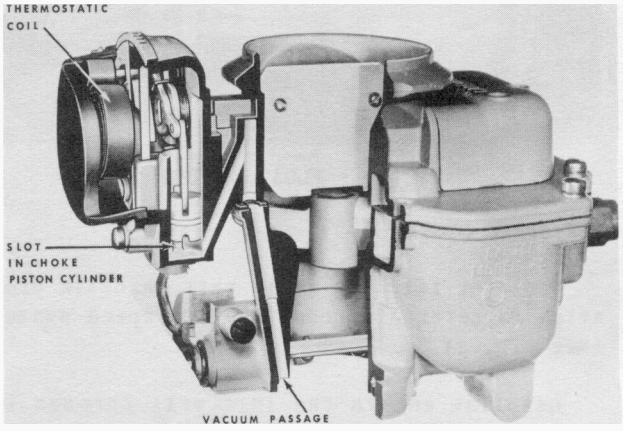


Fig. 5 - CHOKE SYSTEM

warm-up period, the corresponding drop in manifold vacuum allows the thermostatic coil to momentarily close the choke, providing a richer mixture.

FAST IDLE - During the warm-up period it is necessary to provide a fast idle speed to prevent engine stalling. This is accomplished by a fast idle link connected to the choke shart. The Iast idle link attached to the throttle valve, prevents the throttle valve from returning to normal warm engine idle position while the choke is in operation. (See Fig. 6)

UNLOADER - If during the starting period the engine becomes flooded, the choke valve may be opened manually to clean out any excessive fuel in the intake manifold. This is accomplished by depressing the accelerator pedal to the floor board and engaging the starter. The unloader projection on the last idle link will contact the unloader arm on the choke shaft and in turn partially open the choke valve. (See Fig. 7)

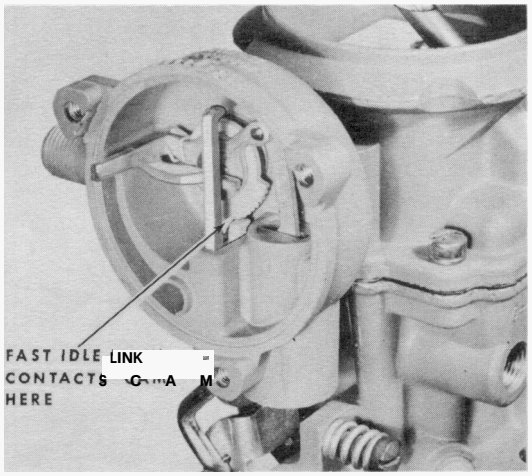


Fig. 6

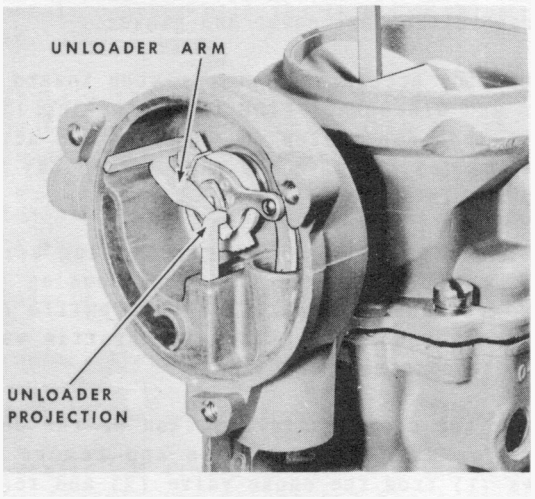


Fig. 7

DISASSEMBLY, REASSEMBLY AND ADJUSTMENTS

DISASSEMBLY

Remove carburetor from the manifold. Remove the carburetor-to-aanlrold gasket and remove the fuel deflector from the manifold.

Loosen the retaining cap screws (3, Fig. 6) In the carburetor dust cover and remove the cover (2). Remove screws and gasket (1) from the dust cover.

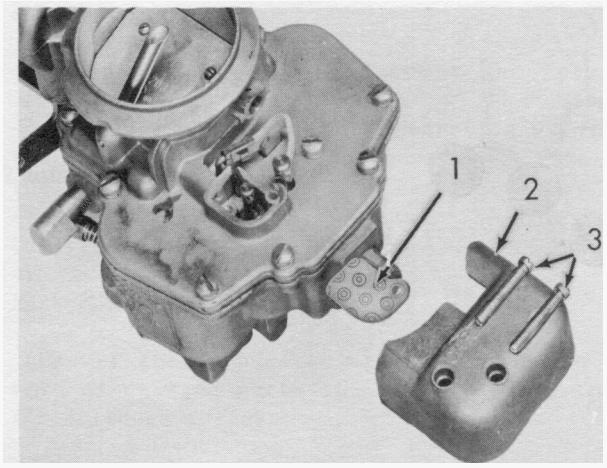


Fig. 6

1. GASKET 2. COVER 3. SCREWS

Remove the step-up jet piston, (7, Fig. 9) rod (6) and spring from the carburetor bowl cover .

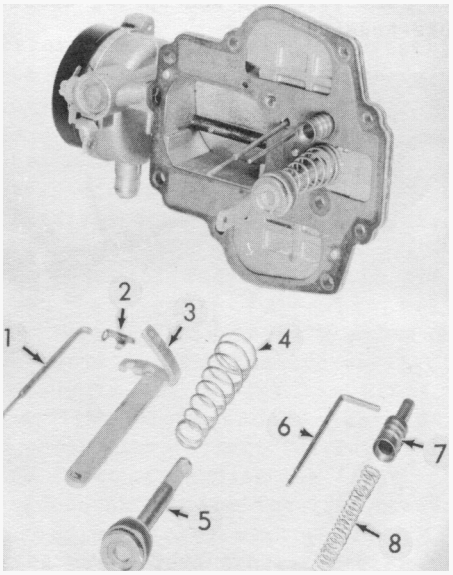


Fig. 9

I. METERING ROD
2. CLIP
3. LINK
4. PUMP PISTON SPRING
5. PUMP PISTON
6. STEP-UP ROD
7. STEP-UP PISTON
6. PISTON SPRING

Disconnect the spring clip retainer (2) from the actuating link (3) and remove the metering rod (1) and spring clip retainer (2).

Remove the throttle shaft arm screw (1, Fig. 10) and remove the throttle shaft arm and pin assembly (2).

Remove the retainer from the choke piston link to throttle valve arm link and remove the link.

Remove the carburetor cover retaining screws and remove the bowl cover and gasket.

Push the accelerator pump piston toward the cover and disconnect from the actuating link, remove the pump piston (5, Fig. 9) and actuating link (3). Remove the pump spring (4) from the pump piston rod.

Remove the choke housing retaining screws (8, Fig. 12) and remove the choke housing (7). Reaove the housing gasket (6) and baffle (5). Disconnect the choke piston-to-throttle valve link (5) and remove the link.

Bark the choke valve position on the choke shaft for assembly purposes and remove the screws (1) from the choke valve (2) and remove the choke valve from the choke valve shaft.

Disconnect the fast idle cam spring from the choke shaft lever. Rotate the choke shaft to remove choke piston from the cylinder. Remove the shaft, lever and piston assembly (3) from the cover. Push the piston pin from the piston and remove the piston from connecting rod. Remove the fast idle cam and spring assembly from the choke housing.

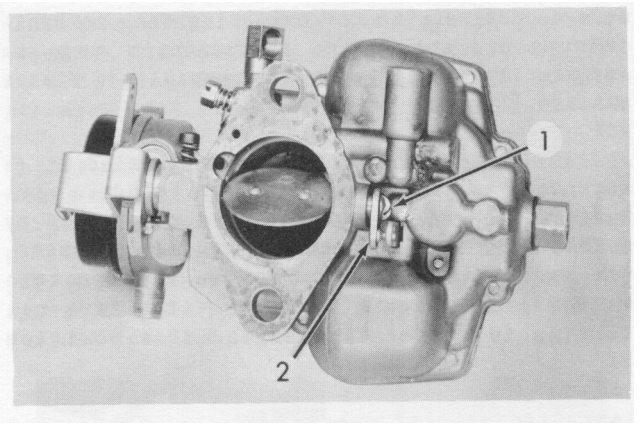


Fig. 10

1. SCREW
2. SHAFT ARM AND PIN ASSEMBLY

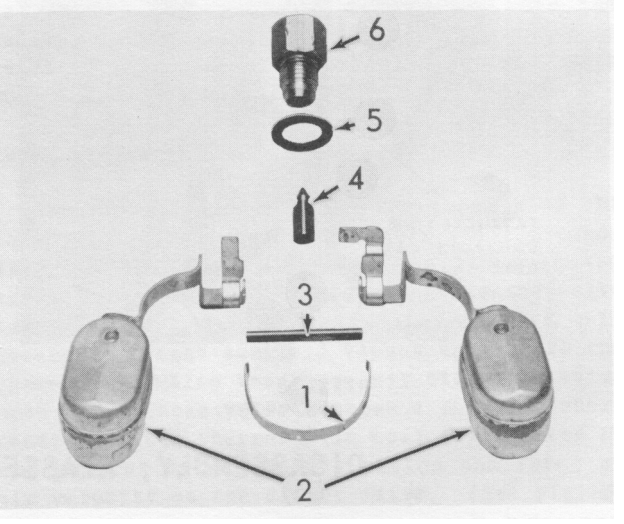


Fig. 11

1. RETAINER
2. FLOATS
3. FLOAT PIN
4. NEEDLE VALVE
5. GASKET
6. VALVE SEAT

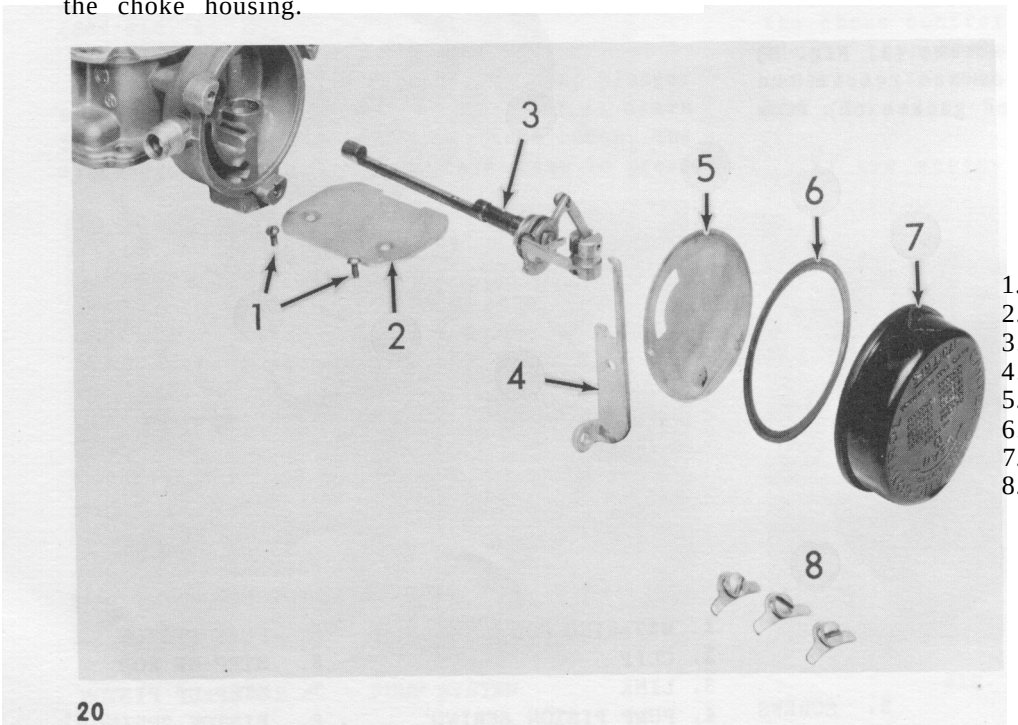


Fig. 12

1. CHOKE VALVE SCREWS
2. CHOKE VALVE
3. SHAFT AND PISTON ASSEMBLY
4. LINK
5. BAFFLE
6. GASKET
7. COVER
8. SCREWS

Remove the float lever pin retainer (1, Fig. 11). Remove the needle valve and seat assembly (4 and 6). Remove the gasket (5) from the assembly.

Remove the floats (2) and pin (3) assembly from the carburetor body and remove the retaining pin and separate the floats.

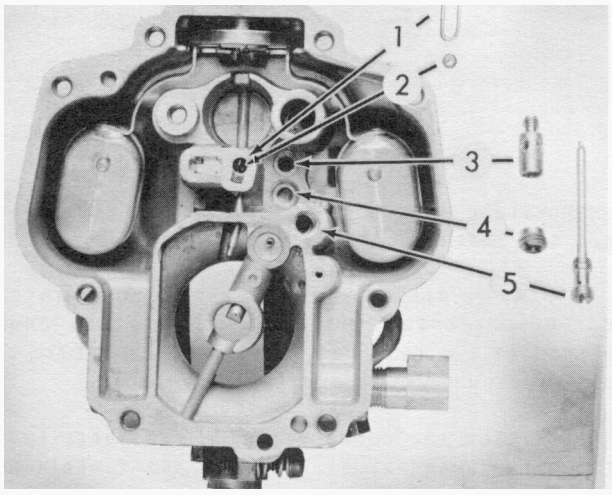


Fig. 13

1. PUMP DISCHARGE BALL RETAINER
2. DISCHARGE BALL
3. STEP-UP JET
4. METERING ROD JET
5. LOW SPEED JET

Remove the metering rod jet (4, Fig. 13).

Remove the step-up jet (3).

Remove the low speed jet (5).

Remove the accelerator pump discharge ball retainer (1) and ball (2).

Remove the idle mixture adjusting screw' and spring.

Remove the idle speed screw and spring.

Mark the positron of the throttle valve on the shaft for assembly purposes and remove the throttle valve retaining screws and remove the throttle valve from the shaft. Remove the throttle valve shaft from the carburetor body.

ASSEMBLY AND ADJUSTMENTS

After thorough cleaning and inspection ror worn or damaged parts the carburetor is to be assembled as follows:

NOTE: worn or damaged parts must be replaced as required. Caution must be observed during reassembly not to damage the percolator tube which extends above the level Of the surface of the carburetor.

Install the throttle valve shaft in the carburetor bowl and position the throttle valve on the shaft using the marks noted at disassembly. Install new throttle valve retaining screws and tighten securely. Upset the end of the screws to assure positive locking.

Install the idle speed screw and spring in the carburetor body. Do not screw the idle speed screw into the carburetor body far enough to permit contact with the throttle valve shaft lever.

Install the idle mixture screw and spring. screw the idle mixture screw into the carburetor body Until it bottoms and turn out 1 turn.

Install the accelerating pump discharge ball check and retainer.

Install the low speed jet.

Install the step-up jet.

Install the metering rod jet.

Assemble the Iloats and install the retaining pin. Install the floats and pin assembly in the carburetor bowl. NOTE: The rloats are properly assembled when the large horizontal tab on one float is toward the needle valve. Install the float lever pin retainer.

Position a new gasket on the needle valve seat, install the needle valve in the seat and install tne assembly in the carburetor bowl,

To perform the float level adjustment first check both floats for side clearance alignment. Bend float arms as required to obtain free operation of the floats, The carburetor MUST be in the upright position when making the float level adjustment. Hold the float retaining pin retainer down to assure that the pin is in the bottom of the guide slots. Hold the float arm lever of the float with the large horizontal tab securely against the needle valve and, using Float Level Guage J-7445-1, check the distance from the top surface of the bowl casting to the top of the float. (See Fig. 14). The float should just touch the gauge to obtain the correct setting of 1/4 inch, Adjust the float by bending the float arm lever as required to obtain the required measurement. Adjust the float level of the other float in the same manner. Turn the carburetor body upside down and hold the pin retainer in position. With both floats resting against tne seated needle valve, check the clearance between the overlapping float tabs. (See Fig. 15) The clearance should be .015". To adjust the clearance bend the large 'horizontal tab.

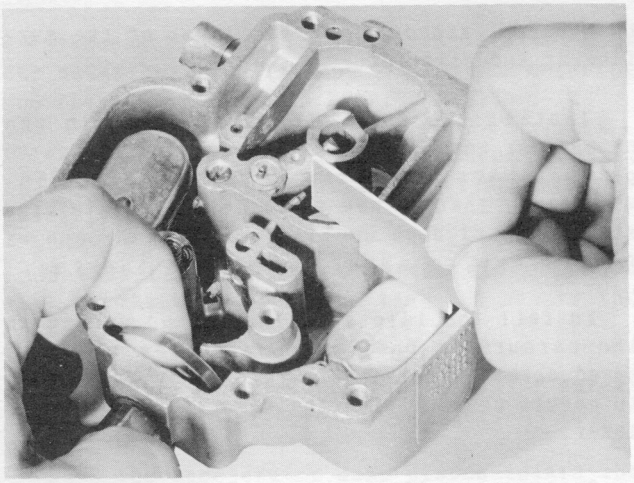


Fig. 14

Fill the bowl with clean gasoline. slip the pump piston into the Well. Then, place a finger over the pump discharge passage and at the same time operate the piston with quick full strokes. observe the direction and position of the fuel discharge from the Jet. The fuel should strike the low speed venturi as indicated in Fig. 16 and the inset in Fig. 16. Bend the Jet as necessary to Obtain the desired fuel discharge,

Install the fast idle cam and spring assembly in the choke housing.

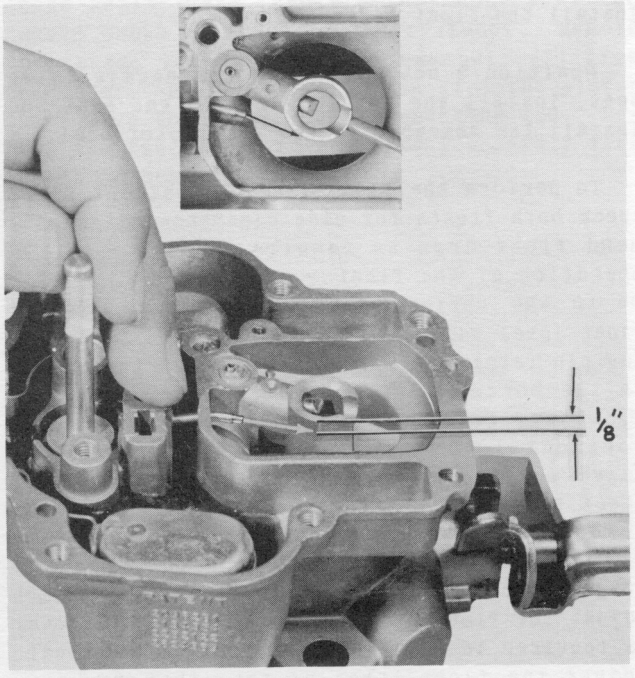


Fig. 16

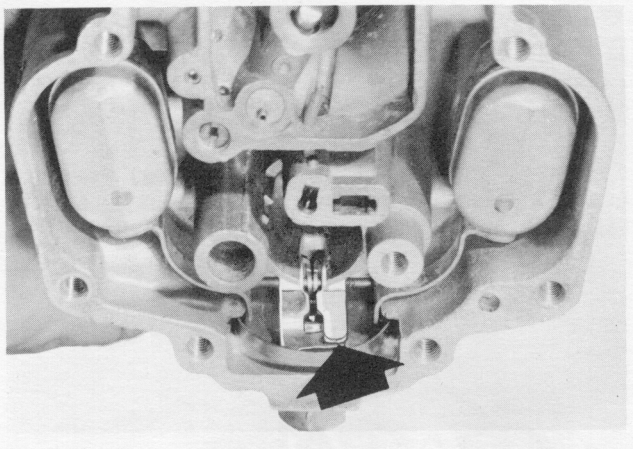


Fig. 15

Position the choke piston on the connecting rod and install the piston pin.

Install the choke shaft assembly in the carburetor cover and rotate to install choke piston in the cylinder, Hook the fast idle cam spring around the choke lever.

Position the choke valve on the shaft using the marks noted at disassembly and install new valve retaining screws. Upset the ends of the retaining screws to insure a positive lock.

position the accelerating pump spring on the pump piston with the small end of the spring against the pump piston. Install the assembly in the carburetor cover. Install the actuating link in the cover and engage the accelerating pump rod with the link.

Install the choke link in the choke housing,

Install a new carburetor cover gasket on the carburetor bowl and install the cover assembly and guide the actuating link and accelerating pump piston assembly into their proper bores. During installation of the cover assembly it is necessary to hold the choke link in the Choke housing. Install the carburetor Cover retaining screws.

Install the throttle shaft link and pin assembly on the throttle shaft so the pin is in the slot of the accelerating pump and metering rod actuating link. Install the retaining screw.

Install the Choke link-to-throttle shaft arm link and retaining clip.

Install the metering rod and retaining clip in the carburetor cover and engage the retaining clip with the actuating link.

The accelerating pump adjustment MUST be made at this time. Hold the throttle valve in the wide open position and measure the distance from the top of the bowl cover to the top of the accelerating pump piston rod. Hold the throttle valve in the fully closed position and measure the distance Iron the top of the bowl cover to the top of the accelerating pumppiston rod. The difference in these measurements must be 9/32" (see Fig. 17). To obtain this measurement bend the pump arm of the actuating link as required.

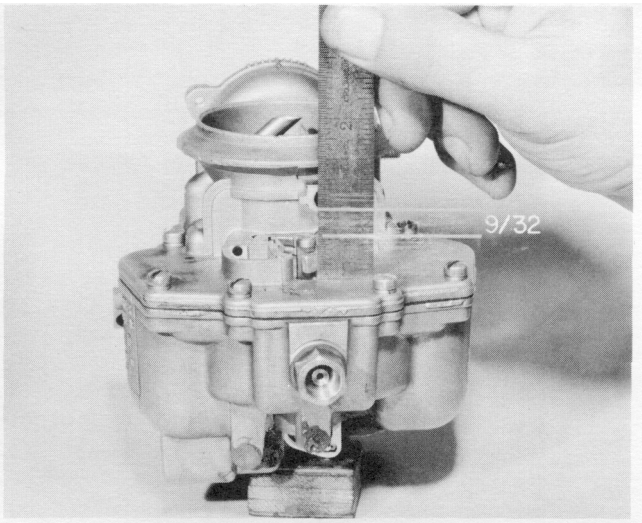


Fig. 17

To adjust the metering rod hold the throttle valve in the wide open position. This Will allow the rod to bottom in the carburetor casting. The rod is properly adjusted when there is some slight movement of the rod in the retaining clip eye when the throttle valve is moved Slightly. If the rod is too low it will push the retaining Clip from the actuating link. If the rod is too high it Will not bottom in the carburetor Casting. Correct adjustment is obtained by bending the metering rod arm of the actuating link (see Fig. 18).

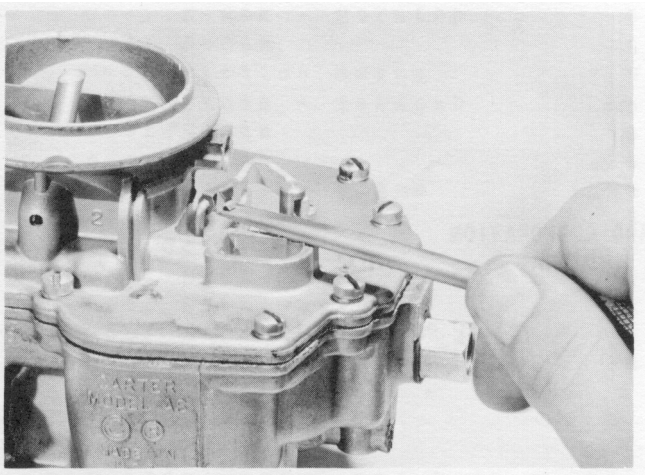


Fig. 18

Install the step-up piston, spring and rod in the carburetor cover. Position a new gasket in the dust cover and install dust cover and retaining screws.

The fast idle adjustment MUST be made at this time. Make certain that the idle speed adjsting screw does not contact the throttle shart lever. open the throttle valve slightly and hold the choke valve in the fully closed position. Close the throttle valve. This action will permit the fast idle cam to revolve to the fast idle position. There must be .045" clearance between the side of the throttle valve and the carburetor body measured opposite the idle ports (see Fig. 19). A wire gauge .045" diameter must be used for checking purposes. To obtain the desired measurement remove the choke link-to-throttle shalt arm link and bend to obtain the desired clearance.

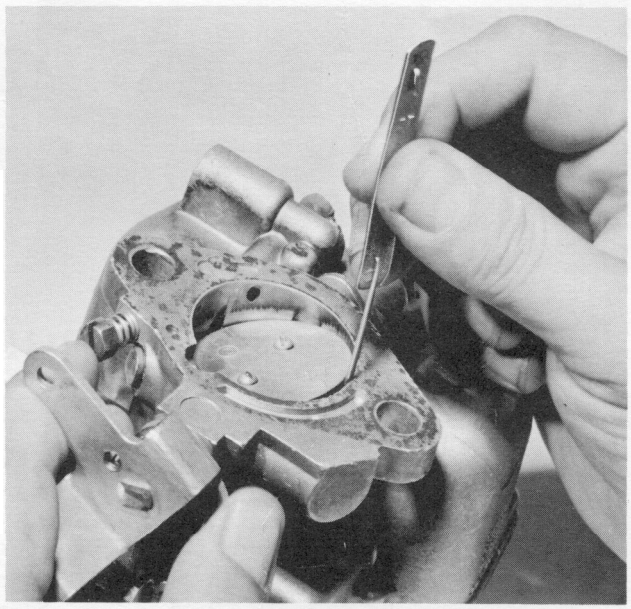


Fig. 19

To perform the choke unloader adjustment hold the throttle valve in the wide open position and close the choke as far as it will go without forcing. Checktheclearance between the upper edge of the choke valve and the inner wall or the air horn using a 3/16" gauge (See Fig. 20). NOTE" The gauge must be held in the vertical position when checking this clearance. To obtain the proper clearance bend the choke unloader arm on the choke shaft.

Install the choke barrle, a new choke cover

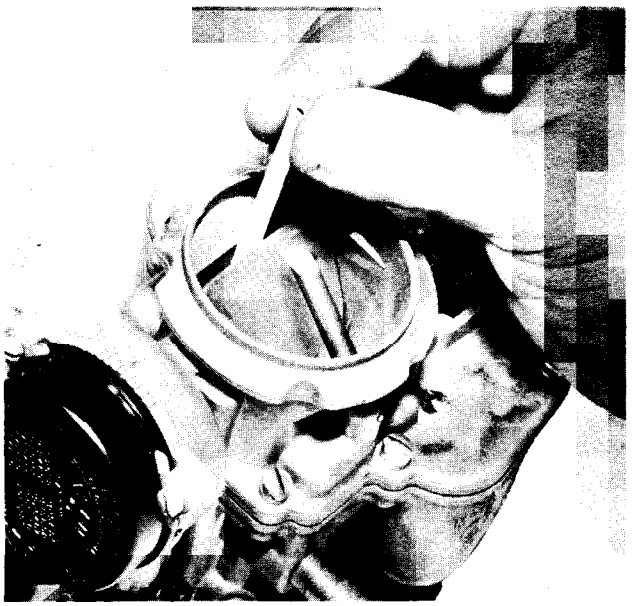


Fig. 20

gasket, and the choke cover. Rotate the cover counter-clockwise to engage choke spring and arm and set cover at the center index mark. Install cover retaining screws and clips.

Position the fuel deflector in the manifold and a new carburetor to manifold gasket on the manifold and install the carburetor on the manifold.

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