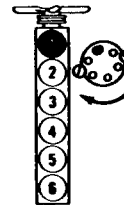


# OLDSMOBILE

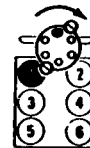
YEAR	ENGINE CUBIC INCHES	AC SPARK PLUG TYPE	SPARK PLUG GAP	DISTRIBUTOR			INITIAL TIMING		ENG. IDLE SPEED*		FUEL PUMP		REGULATOR VOLTAGE SETTING @ F°
				BREAKER GAP inches	DWELL ANGLE degrees	DWELL VARIATION degrees	MAN. TRANS. BTDC degrees	AUTO. TRANS. BTDC degrees	MAN. TRANS. 1	AUTO. TRANS. 1	PRES-SURE LBS. PER SQ. IN.	VOLUME	
<b>6-cylinder and V-6</b>													
1973*	250 eng.	R46TS	.035	.019	33	3	6° <sup>63</sup>	6° <sup>63</sup>	700 <sup>47,87</sup>	600D <sup>47,67</sup>	3.5-4.5	1 pint/30-45 sec. <sup>66</sup>	
1971*	250 eng.	R46TS	.035	.016	33	2	4	4° <sup>57</sup>	550 <sup>40,47</sup>	550D <sup>40,47</sup>	4-5	1 pint/30 sec.	13.5-14.4 @ 125
1970	250 eng.	R46T	.035	.019	31-34	2	TDC <sup>58</sup>	4° <sup>59</sup>	775 <sup>27</sup>	625D <sup>27</sup>	4-5	1 pint/30 sec.	13.8-14.8 @ 85
1969	250 eng.	R46N	.035	.019	31-34	2	TDC <sup>3</sup>	4° <sup>57</sup>	775 <sup>27</sup>	625D <sup>27</sup>	4-5	1 pint/30 sec.	13.5-14.4 @ 125
1968	250 eng.	46N	.035	.019	31-34	3	TDC <sup>3</sup>	4° <sup>57</sup>	725 <sup>27</sup>	575D <sup>27</sup>	3.5-4.5	1 pint/30 sec.	13.5-14.4 @ 125
1967	250 eng.	46N	.035	.019	31-34	3	4	4	500 <sup>9</sup>	500D <sup>9</sup>	3-5	1 pint/30 sec.	13.5-14.4 @ 125
1966	250 eng.	46N	.035	.019	31-34	3	6	6	500 <sup>14</sup>	500D <sup>14</sup>	3.5-4.5	1 pint/30 sec.	13.5-14.4 @ 125
1965	V-6 225 eng.	44S	.030	.016	28-32	3	5	5	550 <sup>17</sup>	500D <sup>17</sup>	4.25-5.75	1 pint/30 sec.	13.6-14.4 @ 125
1964	V-6 225 eng.	44S	.030	.016	28-32	3	5	5	600 <sup>17</sup>	600D <sup>17</sup>	7-8.5	1 pint/30 sec.	13.5-14.4 @ 125
<b>V-8</b>													
1973*	455 eng. (250 H.P.)	R46S <sup>62</sup>	.040	4° <sup>9</sup>	30	3	10° <sup>39</sup>	8° <sup>39</sup>	1000 <sup>47,69</sup>	650D <sup>47,69</sup>	5.5-6.5	1 pint/30 sec.	<sup>66</sup>
1973*	455 eng. (225 H.P.)	R46S <sup>62</sup>	.040	4° <sup>9</sup>	30	3	—	8° <sup>39</sup>	—	650D <sup>47,51</sup>	5.5-6.5	1 pint/30 sec.	<sup>66</sup>
1973*	350 eng. 4 bbl.	R46S <sup>62</sup>	.040	4° <sup>9</sup>	30	3	8° <sup>39</sup>	12° <sup>39,65</sup>	1100 <sup>47,68</sup>	650D <sup>47,68</sup>	5.5-6.5	1 pint/30 sec.	<sup>66</sup>
1973*	350 eng. 2 bbl.	R46S	.040	4° <sup>9</sup>	30	3	—	14° <sup>39,64</sup>	—	700D <sup>47,51</sup>	5.5-6.5	1 pint/30 sec.	<sup>66</sup>
1972*	455 eng. (300 H.P.)	R46S <sup>62</sup>	.040	4° <sup>9</sup>	30	3	10° <sup>39</sup>	10° <sup>50</sup>	1000 <sup>52,53</sup> 47	650D <sup>47</sup> 51	5.5-6.5	1 pint/30 sec.	13.5-14.4 @ 125
1972*	455 eng. (250 H.P.)	R46S <sup>62</sup>	.040	4° <sup>9</sup>	30	3	—	8° <sup>39</sup>	—	650D <sup>47</sup> 51	5.5-6.5	1 pint/30 sec.	<sup>55</sup>
1972*	455 eng. (225 H.P.)	R46S <sup>62</sup>	.040	4° <sup>9</sup>	30	3	—	8° <sup>39</sup>	—	600D <sup>47</sup>	5.5-6.5	1 pint/30 sec.	13.5-14.4 @ 125
1972*	350 eng. 4 bbl.	R46S <sup>62</sup>	.040	4° <sup>9</sup>	30	3	8° <sup>39</sup>	12° <sup>39</sup>	750 <sup>47,52</sup>	600D <sup>47</sup>	5.5-6.5	1 pint/30 sec.	13.5-14.4 @ 125
1972*	350 eng. 2 bbl.	R46S	.040	4° <sup>9</sup>	30	3	8° <sup>39</sup>	8° <sup>39</sup>	750 <sup>47,54</sup>	650D <sup>47</sup> 54	5.5-6.5	1 pint/30 sec.	13.5-14.4 @ 125
1971*	455 eng. (350 H.P.)	R45S	.040	.016	29-31	3	—	10° <sup>39</sup>	40,47	600D <sup>40,47</sup>	5.5-6.5	1 pint/30 sec.	13.8-14.8 @ 85
1971-70*	455 eng. (340 H.P.)	R45S <sup>44</sup>	.030 <sup>44</sup>	.016	29-31	3	12° <sup>39</sup>	10° <sup>50</sup>	750 <sup>27</sup>	600D <sup>27,41,47</sup>	5-6 <sup>42</sup>	1 pint/30 sec.	13.8-14.8 @ 85
1971-70*	455 eng. (320 H.P.)	R46S	.030 <sup>44</sup>	.016	29-31	3	8° <sup>43,39</sup>	8° <sup>43,39</sup>	750 <sup>27</sup>	600D <sup>27,47</sup>	5-6 <sup>42</sup>	1 pint/30 sec.	13.8-14.8 @ 85
1971*	350 eng.	R46S <sup>46</sup>	.040	.016	30	3	10° <sup>39</sup>	10° <sup>45,39</sup>	750	600D <sup>47</sup>	5.5-6.5	1 pint/30 sec.	13.8-14.8 @ 85
1970	455 eng. (400 H.P.)	R44S	.030	.019	30	3	—	12° <sup>39</sup>	—	600D <sup>35,17</sup>	5-6	1 pint/30 sec.	13.8-14.8 @ 85
1970	455 (390 H.P.)	R44S	.030	.019	30	3	—	12° <sup>39</sup>	—	600D <sup>27</sup>	5-6	1 pint/30 sec.	13.8-14.8 @ 85
1970	455 LC	R45S	.030	.019	30	3	—	8° <sup>39</sup>	—	575D <sup>35,27</sup>	5-6	1 pint/30 sec.	13.8-14.8 @ 85
	HC <sup>37</sup>	R46S	.030	.019	30	3	8° <sup>39</sup>	8° <sup>39</sup>	675 <sup>27</sup>	575D <sup>35,27</sup>	5-6	1 pint/30 sec.	13.8-14.8 @ 85
1970	350 eng. (325 H.P.)	R43S	.030	.019	30	3	14° <sup>39</sup>	14° <sup>39</sup>	650 <sup>27</sup>	575D <sup>35,27</sup>	5-6	1 pint/30 sec.	13.8-14.8 @ 85
1970	350	R46S	.030	.019	30	3	10° <sup>39</sup>	10° <sup>39</sup>	750 <sup>27,34</sup>	575D <sup>33,27</sup>	5-6	1 pint/30 sec.	13.8-14.8 @ 85
1969	455 w/4-bbl. carb. LC	R45S <sup>28</sup>	.030	—	30	3	—	8° <sup>50</sup>	—	575D	5.5-6.5	1 pint/30 sec.	13.5-14.4 @ 125
1969	455 w/4-bbl. carb. 365 hp HC	R44S <sup>28</sup>	.030	—	30	3	—	8° <sup>50</sup>	—	575D <sup>27</sup>	5.5-6.5	1 pint/30 sec.	13.5-14.4 @ 125
1969	455 w/4-bbl. carb. HC	R44S <sup>28</sup>	.030	—	30	3	—	10° <sup>50</sup>	—	575D <sup>27</sup>	5.5-6.5	1 pint/30 sec.	13.5-14.4 @ 125
1969	455 w/2-bbl. carb. LC	R45S <sup>28</sup>	.030	—	30	3	8	6° <sup>50</sup>	675 <sup>27</sup>	575D <sup>27</sup>	5.5-6.5	1 pint/30 sec.	13.5-14.4 @ 125

\*For detailed carburetor adjustments refer to manufacturers service manual.

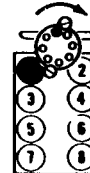
## CYLINDER NUMBERING SEQUENCE



FIRING ORDER: 1-5-3-6-2-4

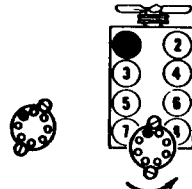


FIRING ORDER: 1-6-5-4-3-2



1961-63  
215 V-8 eng.  
FIRING ORDER: 1-8-4-3-6-5-7-2

All Exc. 394 eng.



1959-64 Large Series  
330, 371 eng.  
FIRING ORDER: 1-8-7-3-6-5-4-2  
1964 F-85 330, 400 eng.  
1965-73 ALL 330, 350,  
400, 425, 455 eng.

1969	400 eng.	R44S <sup>28</sup>	.030	—	30	3	2 <sup>30,50</sup>	8 <sup>30,50,61</sup>	7 <sup>50,27,32</sup>	575D <sup>32,27</sup>	5.5—6.5	1 pint/30 sec.	13.5—14.4 @ 125
1969	350 eng. LC	R46S	.030	—	30	3	6 <sup>50</sup>	6 <sup>50</sup>	675 <sup>27</sup>	575D <sup>27</sup>	5.5—6.5	1 pint/30 sec.	13.5—14.4 @ 125
1969	350 eng. HC	R45S <sup>28</sup>	.030	—	30	3	8 <sup>31,50</sup>	8 <sup>31,50</sup>	725 <sup>27</sup>	575D <sup>27</sup>	5.5—6.5	1 pint/30 sec.	13.5—14.4 @ 125
1968	455 eng. w/2-bbl. carb. LC	45S <sup>4</sup>	.030	.016	28-32	3	5 <sup>50</sup>	5 <sup>50</sup>	650 <sup>27</sup>	550D <sup>27</sup>	5.5—7	1 pint/30 sec.	13.5—14.4 @ 125
1968	455 eng. w/2-bbl. carb. HC	44S <sup>4</sup>	.030	.016	28-32	3	—	7.5 <sup>50</sup>	—	550D <sup>27</sup>	5.5—7	1 pint/30 sec.	13.5—14.4 @ 125
1968	455 eng. w/4-bbl. carb.	44S <sup>4</sup>	.030	.016	28-32	3	—	7.5 <sup>7,50</sup>	—	550D <sup>27</sup>	5.5—7	1 pint/30 sec.	13.5—14.4 @ 125
1968	400 eng. w/4-bbl. carb.	44S <sup>4</sup>	.030	.016	28-32	3	2.5 <sup>50</sup>	7.5 <sup>8,50</sup>	700 <sup>27</sup>	550D <sup>27</sup>	5.5—7	1 pint/30 sec.	13.5—14.4 @ 125
1968	400 eng. w/2-bbl. carb.	45S <sup>4</sup>	.030	.016	28-32	3	—	5 <sup>50</sup>	—	550D <sup>27</sup>	5.5—7	1 pint/30 sec.	13.5—14.4 @ 125
1968	350 eng.	45S <sup>4</sup>	.030	.016	28-32	3	5.5 <sup>50</sup>	5 <sup>50</sup>	650 <sup>27</sup>	550D <sup>27</sup>	5.5—7	1 pint/30 sec.	13.5—14.4 @ 125
1967	425 eng.	45S <sup>4</sup>	.030	.016	28-32	3	7.5 <sup>10,50</sup>	7.5 <sup>10,50</sup>	550 <sup>11</sup>	500D <sup>11</sup>	5—7	1 pint/30 sec.	13.5—14.4 @ 125
1967	400 eng.	45S <sup>4</sup>	.030	.016	28-32	3	7.5 <sup>50</sup>	7.5 <sup>50</sup>	600 <sup>12</sup>	500D <sup>12</sup>	5—7	1 pint/30 sec.	13.5—14.4 @ 125
1966	400 eng.	45S <sup>4</sup>	.030	.016	28-32	3	7.5 <sup>50</sup>	7.5 <sup>50</sup>	600 <sup>12</sup>	500D <sup>12</sup>	7.75—9	1 pint/30 sec.	13.5—14.4 @ 125
1967	330 eng.	45S <sup>4</sup>	.030	.016	28-32	3	7.5 <sup>50</sup>	7.5 <sup>50</sup>	600 <sup>13</sup>	500D <sup>13</sup>	5—7	1 pint/30 sec.	13.5—14.4 @ 125
1966	330 eng.	45S <sup>4</sup>	.030	.016	28-32	3	7.5 <sup>50</sup>	7.5 <sup>50</sup>	600 <sup>13</sup>	500D <sup>13</sup>	7.75—9	1 pint/30 sec.	13.5—14.4 @ 125

■ Torque Recommendations listed on inside back cover.

● All 1969 and later GM Cars and Trucks use ACNITER Spark Plugs. ACNITERS are optional on all other models.

<sup>1</sup> Hot idle compensator valve held closed, if so equipped. Air Cond. unit turned OFF, set idle to rpm shown unless otherwise indicated.

<sup>3</sup> @ 700 rpm or less.

<sup>4</sup> Police, 43S. w/4-bbl. carb., 44S.

<sup>5</sup> w/4-bbl. carb., 7.5°.

<sup>7</sup> w/Air Induction, 10° @ 850 rpm.

<sup>8</sup> w/Air Induction, 12.5° @ 1250 rpm.

<sup>9</sup> w/A.I.R.: MT 700, AT 600D. w/Air Cond., MT and AT 550D.

<sup>10</sup> High-Compression Engine w/2-bbl. carb., 5°.

<sup>11</sup> w/A.I.R.: MT 600, AT 550D. w/Air Cond., unit turned OFF except w/425 4-bbl. carb., unit turned ON; MT and AT 575D. w/Comfortron, MT and AT 500D. w/CCS MT and AT 600D.

<sup>12</sup> w/A.I.R. and Air Cond.: MT and AT 600D. except 1967 A.I.R. models MT 650 and AT 600D.

<sup>13</sup> w/A.I.R.: 1967 MT 650, AT 600D.; 1966 MT and AT 600D. w/Air Cond.: 1967 MT 600, AT 575D.; 1966 MT and AT 575D.

<sup>14</sup> w/A.I.R.: MT and AT 600D.: w/Air Cond.: MT and AT 500D.

<sup>17</sup> w/Air Cond.: MT 600, AT 550D.

<sup>27</sup> 1968-70 Carburetor adjustment: Adjust throttle stop screw and idle mixture screws alternately to obtain best idle at specified idle rpm. Turn mixture screw IN (lean) to obtain 10 to 15 rpm drop with each screw. Final idle rpm to be 20 to 30 rpm less than listed. Electrically disconnect idle stop solenoid, if so equipped, and adjust carburetor throttle stop screw to 400 rpm in DRIVE.

<sup>28</sup> w/Air Induction or Police, R43S. 400 engine w/Low-Compression engine, R45S.

<sup>30</sup> Vista-Cruiser, 10°. w/Air Induction, 14° @ 1250 rpm.

<sup>31</sup> w/Air Induction, 12° @ 1000 rpm.

<sup>32</sup> w/Air Induction: MT 800-850, AT 600-650D.

<sup>33</sup> w/Air Conditioning-575 rpm.

<sup>34</sup> When installed on cars having B-body, Manual Transmission-Idle rpm-675 & 8° Timing @ 1100 rpm.

<sup>35</sup> w/Air Conditioning use identical specifications.

<sup>37</sup> Use same specifications on 455-4V Auto Trans. when installed in B, C, & E Bodies.

<sup>39</sup> Set Timing at 1100 rpm.

<sup>40</sup> w/Air Cond. MT 600 AT 575D Air Cond. OFF.

<sup>41</sup> 1971-AT 650D.

<sup>42</sup> 1971-5.5—6.5 psi.

<sup>43</sup> 1971 4-4-2 is 10° BTDC.

<sup>44</sup> 1971 Exc. 4-4-2 use R46S. All with .040" Gap.

<sup>45</sup> 350 eng. 4 bbl. at 12° BTDC.

<sup>46</sup> 350 eng. 4 bbl. w/MT use R45S.

<sup>47</sup> See Page 49 for idle speed and mixture adjustments.

<sup>48</sup> Set dwell at 30° for proper Gap.

<sup>50</sup> At 850 rpm.

<sup>51</sup> 550P w/solenoid electrically disconnected.

<sup>52</sup> 550 rpm w/solenoid electrically disconnected.

<sup>53</sup> 750 rpm for 442.

<sup>54</sup> Man. trans. 600 rpm, auto trans, 600P w/solenoid electrically disconnected.

<sup>55</sup> Tornado integral regulator.

<sup>57</sup> At 500 rpm.

<sup>58</sup> At 750 rpm.

<sup>59</sup> At 600 rpm.

<sup>61</sup> 325 H.P. 10° at 850 rpm.

<sup>62</sup> Man. Trans. w/4 bbl. carb. R45S

<sup>63</sup> At 700 rpm.

<sup>64</sup> Delta 88 12°.

<sup>65</sup> Station Wagon 10°.

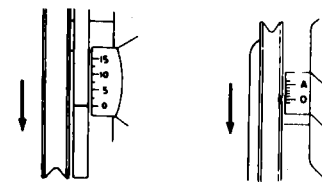
<sup>66</sup> Integrated Regulator.

<sup>67</sup> Man. Trans. 450 rpm, Auto. Trans. 450P with solenoid electrically disconnected.

<sup>68</sup> Man. Trans. 650 rpm, Auto. Trans. 550P with solenoid electrically disconnected.

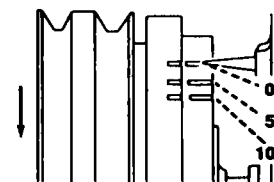
<sup>69</sup> Man. Trans. 750 rpm, Auto. Trans. 550P with solenoid electrically disconnected.

## TIMING MARK

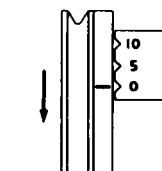


1964-65  
225 V-6 eng.

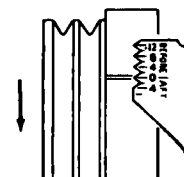
1966-70  
250 6-cyl. eng.  
(Each line equals 2°)



Late 1959-62  
371, 394 V-8 eng.



1968 350, 400, 455 V-8 eng.



1969-73 350, 400, 455 V-8 eng.

Disconnect Vacuum Line Hose from Distributor and tape before setting timing.

# OLDSMOBILE (Cont'd.)

## 1972 SLOW IDLE ADJUSTMENT

### Model 4MC Carburetor

1. Engine at normal operating temperature. Remove air cleaner, disconnect air cleaner vacuum hose at intake manifold, then plug fitting.
1. Choke open and air conditioning off.
3. Set parking brake and block drive wheels.
4. Disconnect carburetor hose from vapor canister (plug hose).
5. Disconnect distributor vacuum hose at distributor and plug.
6. With dwell and timing properly adjusted, if equipped with vacuum actuator or idle solenoid adjust actuator or solenoid to obtain:

#### DO NOT DISCONNECT SOLENOID OR VACUUM ACTUATOR

Automatic Trans. - trans. in drive - set to 650 rpm

Manual Trans. - trans. in neutral

Exc. 455 cu. in. W-30 - set to 750 rpm

455 cu. in. W-30 - set to 1000 rpm

7. Adjust carburetor screw to obtain:  
If equipped with either idle solenoid or vacuum actuator de-energize by disconnecting wire or vacuum hose, plug vacuum hose.

#### WITH IDLE SOLENOID OR VACUUM ACTUATOR

Automatic Trans. - trans. in park - set to 550 rpm

Manual Trans. - in neutral - set to 550 rpm

#### WITHOUT IDLE SOLENOID OR VACUUM ACTUATOR

Automatic Trans. - trans. in drive - set to 600 rpm

NOTE: Idle mixture screws have been pre-set at the factory and capped. DO NOT REMOVE CAPS.

8. If state inspection or initial delivery checks require a CO reading, idle CO should not exceed 1.0% CO.
9. Connect vacuum actuator hose or idle solenoid wire, connect distributor vacuum hose, connect carburetor hose to vapor canister, connect air cleaner hose and install air cleaner.

### Model 2GC Carburetor

1. Engine at normal operating temperature. Remove air cleaner, disconnect air cleaner vacuum hose at intake manifold, then plug fitting.
2. Choke open and air conditioning off.
3. Set parking brake and block drive wheels.
4. Disconnect carburetor hose from vapor canister and plug.
5. Disconnect distributor vacuum hose. Plug hose to carburetor.
6. With dwell and timing properly adjusted, adjust solenoid (energized) screw to obtain:  
Automatic Trans. - trans. in drive - adjust to 650 rpm  
Manual Trans. - trans. in neutral - adjust to 750 rpm
7. Adjust carburetor screw (solenoid de-energized) to obtain:  
Automatic Trans. - trans. in park - adjust to 600 rpm  
Manual Trans. - trans. in neutral - adjust to 600 rpm

NOTE: Idle mixture screws have been pre-set at the factory and capped. DO NOT REMOVE CAPS.

8. If state inspection or initial delivery checks require a CO reading, idle CO should not exceed 1.0% CO.
9. Unplug distributor vacuum hose and reconnect to distributor. Unplug vacuum fitting at intake manifold and reconnect air cleaner hose. Remove plug and connect carburetor hose to canister. Install air cleaner.

IN CASE OF HIGH IDLE CO, MAJOR OVERHAUL, THROTTLE BODY REPLACEMENT, OR WHEN POOR IDLE QUALITY IS APPARENT, REQUIRING REMOVAL OF THE IDLE LIMITER CAPS, THE FOLLOWING PROCEDURE MUST BE USED.

(HOWEVER)

BEFORE SUSPECTING THE CARBURETOR TO BE THE CAUSE OF POOR ENGINE PERFORMANCE OR ROUGH IDLE, CHECK IGNITION INCLUDING DISTRIBUTOR, CHECK TIMING, PLUGS AND WIRES, CHECK AIR CLEANER, EVAPORATIVE EMISSION SYSTEM, PCV SYSTEM AND COMPRESSION. ALSO, CHECK VACUUM HOSES FOR LEAK.

1. With engine at operating temperature, stop engine and disconnect carburetor hose from vapor canister and plug hose.
2. Remove idle limiter caps.
3. Lightly seat idle mixture screws; then back out 6 full turns.
4. Connect CO meter to the exhaust system.
5. Start engine and with engine running at proper slow idle rpm (solenoid energized), automatic trans. in drive, adjust each idle mixture screw an equal number of turns to obtain a satisfactory idle at specified rpm with a maximum CO reading of .3%.
6. Temporarily place air cleaner on carburetor and recheck CO. Reading must not be above .3%, adjust idle mixture screws if necessary.
7. Install new idle limiter caps (red). Install air cleaner and carburetor hose to canister.

NOTE: CO meter must be capable of low level, accurate readings. Meters with an accuracy of  $\pm 5\%$  of full scale and scale divisions of .2% CO, or less will be suitable.

## 1973 SLOW IDLE ADJUSTMENT

1. Engine at normal operating temperature. Remove air cleaner, disconnect air cleaner vacuum hose at intake manifold, then plug fitting.
2. Choke open and air conditioning off.
3. Set parking brake and block drive wheels.
4. Disconnect carburetor hose from vapor canister and plug.
5. Disconnect hose from E.G.R. valve. Plug hose to carburetor.
6. Disconnect distributor vacuum hose. Plug hose to carburetor.
7. With dwell and timing properly adjusted, adjust solenoid (energized) screw to obtain:

MV Model Carb.

AT-600D  
MT-700N

2GC Model Carb.

AT-700D

4MC Model Carb.

AT-650D

MT-350 Eng.-1100N

MT-455 Eng.-1000N

8. Adjust solenoid (de-energized) to obtain:

MV Model carb.

AT-450P  
MT-450N

2GC Model Carb.

AT-550P

4MC Model Carb.

AT-550P

MT-350 Eng. 650N

MT-450 Eng. 750N

NOTE: Idle mixture screws have been pre-set at the factory and capped. DO NOT REMOVE CAPS.

9. Reconnect distributor, canister and E.G.R. hoses.