

# Service Manual

## High Price Small Speciality

### 1986

#### FOREWORD





















This Service Manual has been prepared with the latest service information available at the time of publication. It is subdivided into various group categories and each section contains diagnosis, disassembly, repair, and installation procedures along with complete specifications and tightening references. Use of this manual will aid in properly performing any servicing necessary to maintain or restore the high levels of performance and reliability designed into these outstanding vehicles.



Chrysler Corporation reserves the right to make changes in design or to make additions to or improvements in its products without imposing any obligations upon itself to install them on its products previously manufactured.

5M 0390

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## INTRODUCTION

This publication contains the essential removal, installation, adjustment and maintenance procedures for servicing all Body Styles. This information is current as of time of publication.

## INDEX

The preceding page contains a table of contents which lists the group number, group title and symbol of each group. The symbol is also located at the left or right top of each page.

## GROUP INDEX

The first page in each group has an index to the subjects included in that group.

## PAGE NUMBERS

All page numbers consist of two sets of digits separated by a dash. The digits preceding the dash identify the number of the group. The digits following the dash represent the consecutive page number within the group. The page numbers can be found on the lower left or right of each page.

## TEXT

1. This manual contains essential procedures for removal, disassembly, inspection, reassembly and installation. For reassembly and installation, reverse the order of disassembly and removal procedures respectively, paying attention to the key points.
2. Unless otherwise specified, each service procedure covers all models. Procedures covering specific models are identified by the model codes, destination or similar designation. A description of these designations is covered in this unit under "VEHICLE IDENTIFICATION".

## ILLUSTRATIONS

Illustrations are placed abreast the text. If two or more texts are paired with one illustration, the illustration number at lower right corner of the illustration is given in ( ) at the end of the more pertinent text for reference.

Section title	Symbol
REASSEMBLY SERVICE — DRIVE SHAFT	
<p data-bbox="1393 604 1450 625">Y11093</p>	
D.J. inner race in the	<p data-bbox="1393 898 1450 919">Y11097</p>
war or damage.	
	3-17
	Page number

## DEFINITION OF TERMS

### Standard Value

Indicates the value used as the standard for judging the quality of a part or assembly on inspection or the value to which the part or assembly is corrected and adjusted. It is given by a tolerance.

### Limit

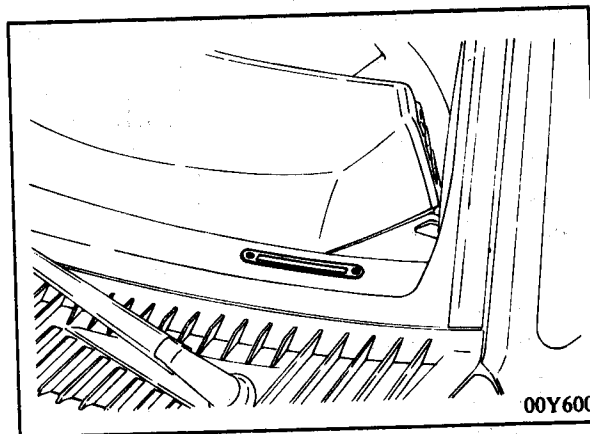
Shows the standard for judging the quality of a part or assembly on inspection and means the maximum or minimum value within which the part or assembly must be kept functionally or in strength. It is a value established outside the range of standard value.

# VEHICLE IDENTIFICATION



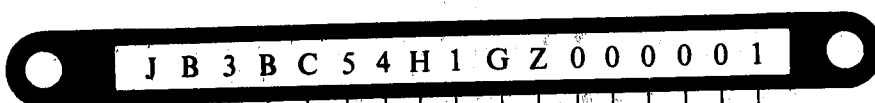
## VEHICLE IDENTIFICATION NUMBER LOCATION

The vehicle identification number (V.I.N.) is located on a plate attached to the left top side of the instrument panel and visible through the windshield.



## VEHICLE IDENTIFICATION CODE CHART PLATE

All vehicle identification numbers contain 17 digits. The vehicle number is a code which tells country, make, vehicle type, etc.



1st Digit	2nd Digit	3rd Digit	4th Digit	5th Digit	6th Digit	7th Digit	8th Digit	9th Digit	10th Digit	11th Digit	12th to 17th Digits
Country	Make	Vehicle type	Others	Line	Series	Body	Engine	*Check digits	Model year	Plant	Serial number
J— Japan	B— Dodge P— Plymouth	3— Passenger car	B— Manual seat belt	C— CONQUEST	5— Premium	4— 2-door hatch-back	H— 2.6 liters (155.9 C.I.D.) with turbo-charger N— 2.6 liters (155.9 C.I.D.) turbocharged engine with intercooler	0 1 2 3 . . 9 X	G— 1986	Z— Okazaki plant	000001 to 999999

**NOTE**

\* "Check digit" means a single number or letter X used to verify the accuracy of transcription of vehicle identification number.  
M/T is an abbreviation for manual transmission.  
A/T is an abbreviation for automatic transmission.

VALVE ADJUSTMENT = 0-8  
 ANTI-LOCK CONTROL = 5-39  
 COMPONENT LOCATIONS = 8-183  
 TROUBLE CODES = 14-27



# VEHICLE IDENTIFICATION

## VEHICLE IDENTIFICATION NUMBER LIST

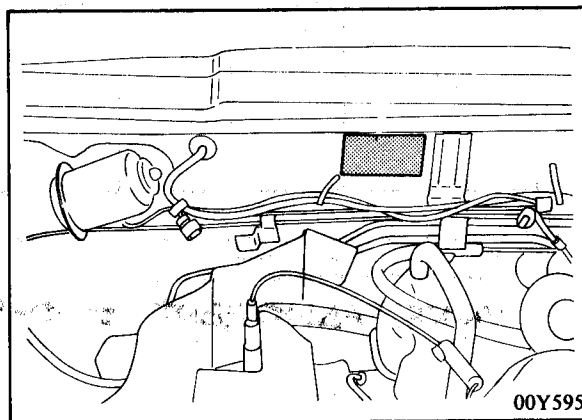
V.I.N. (except sequence number)	Brand (Package)	Destination	Engine displacement	Models code
JB3BC54H□GZ JB3BC54H□GZ JB3BC54H□GZ JB3BC54H□GZ JB3BC54N□GZ JB3BC54N□GZ	Dodge	Federal California* Federal California* Federal California*	2.555 liters (155.9 C.I.D.)	A187AMNSL2 A187AMNSL7 A187AMRSL2 A187AMRSL7 A187AMNFGL2 A187AMNFGL7
JP3BC54H□GZ JP3BC54H□GZ JP3BC54H□GZ JP3BC54H□GZ JP3BC54N□GZ JP3BC54N□GZ	Plymouth	Federal California* Federal California* Federal California*	2.555 liters (155.9 C.I.D.)	A187AMNSL4 A187AMNSL9 A187AMRSL4 A187AMRSL9 A187AMNFGL4 A187AMNFGL9

\* Can also be sold in Federal states.

## VEHICLE INFORMATION CODE PLATE

Vehicle information code plate is riveted onto the firewall in the engine compartment.

The plate shows model code, engine model, transmission model, final gear ratio, and body color code.







# VEHICLE IDENTIFICATION

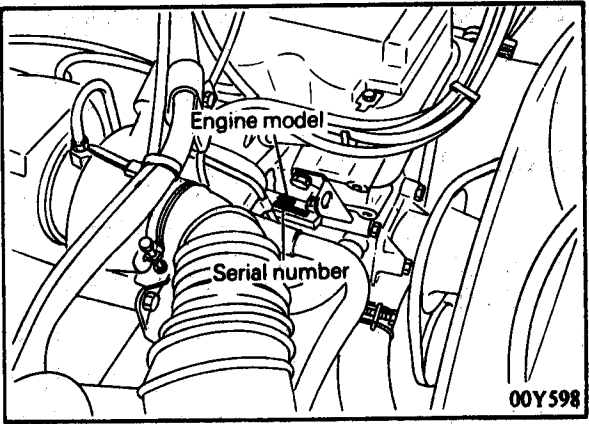
## ENGINE MODEL STAMPING

The engine model number is stamped at the right front side on the top edge of the cylinder block as shown in the following:

Engine model	Engine displacement
G54B	2.555 liters (155.9 C.I.D.)

The engine serial number is stamped near the engine model number, and the serial number cycles, as shown below.

Engine serial number	Number cycling
AA0201 to YY9999	AA0201 -----> AA9999
	AB0001 -----> AY9999
	BA0001 -----> YY9999



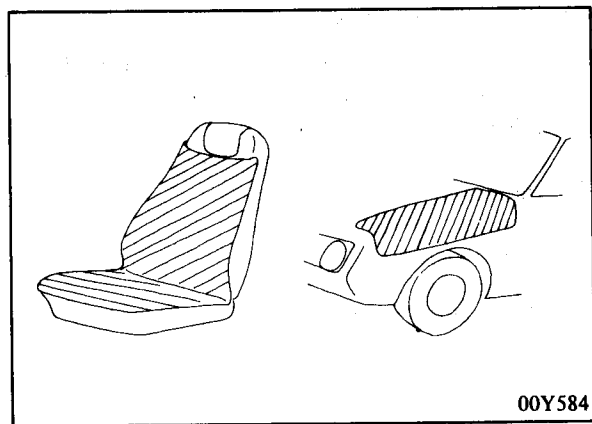
## BODY COLOR CODE

Exterior code	Body color
H43	Silver (Metallic)
K78	Gold (Metallic)
L05	Olv/Gray (Metallic)
R04	Red
R64	Red (Metallic)
W18	White
X15	Black



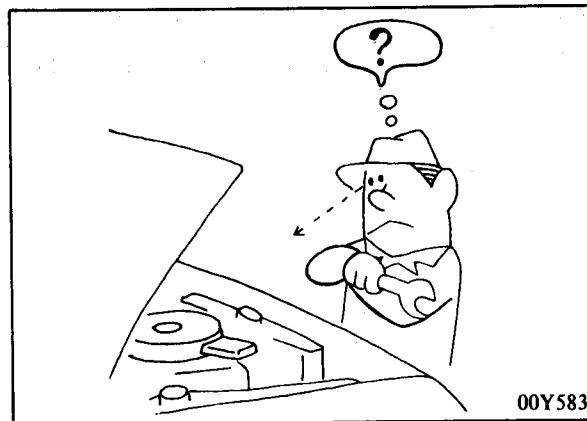
**PROTECTING THE VEHICLE**

If there is a likelihood of damaging painted or interior parts during service operations, protect them with suitable covers (such as seat covers, etc.).



**REMOVAL AND DISASSEMBLY**

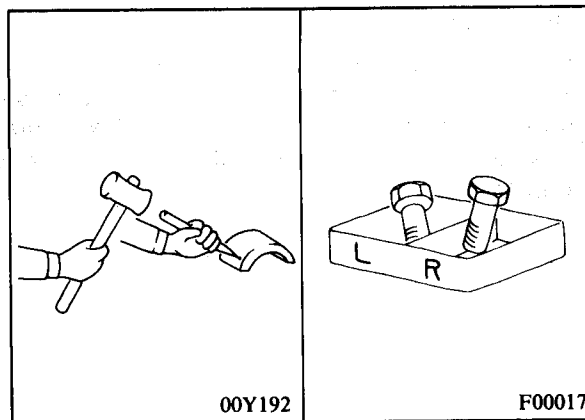
When checking a malfunction, find the cause of the problem. If it is determined that removal and/or disassembly is necessary, perform the work by following the procedures contained in this Service Manual.



If punch marks or mating marks are made to avoid error in assembly and facilitate the assembly work, be sure to make them in locations which will have no detrimental effect on performance and/or appearances.

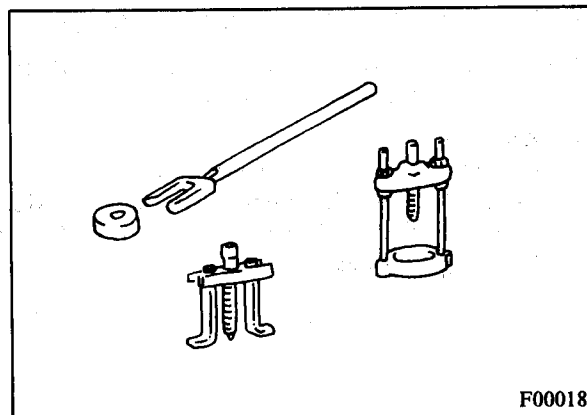
If an area having many parts, similar parts, and/or parts which are symmetrical right and left is disassembled, be sure to arrange the parts so that they do not become mixed during the assembly process.

1. Arrange the parts removed in the proper order.
2. Determine which parts are to be reused and which are to be replaced.
3. If bolts, nuts, etc., are to be replaced, be sure to use only the exact size specified.



**SPECIAL TOOLS**

If other tools are substituted for the special tools to do service or repair work, there is the danger that vehicle parts might be damaged, or the mechanic might be injured; therefore, be sure to use the special tool whenever doing any work for which the use of one is specified.



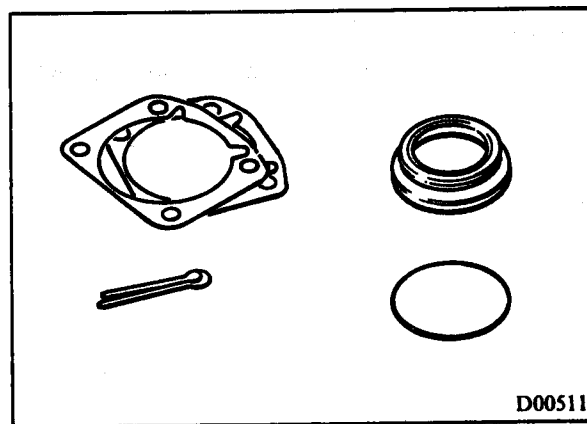


## PRECAUTIONS BEFORE SERVICE

### PARTS TO BE REPLACED

If any of the following parts are removed, they must be replaced with new parts.

1. Oil seals
2. Gaskets (except rocker cover gasket)
3. Packings
4. O-rings
5. Lock washers
6. Cotter pins
7. Self-locking nuts

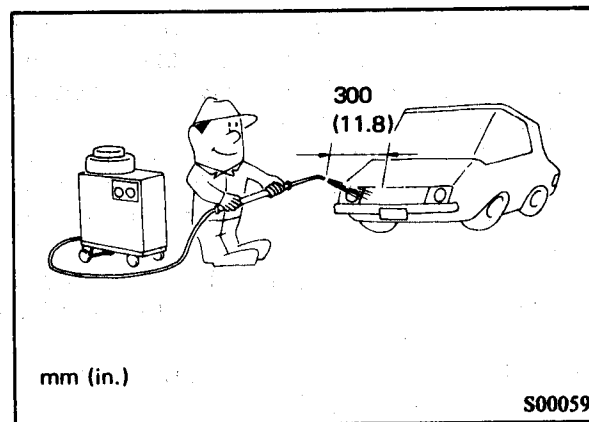


### PARTS

When replacing parts, use Mopar genuine parts.

### VEHICLE WASHING

If high-pressure car-washing equipment or steam car-washing equipment is used to wash the vehicle, be sure to maintain the spray nozzle at a distance of at least 300 mm (11.8 in.) from any plastic parts and all opening parts (doors, luggage compartment, sunroof, etc.).

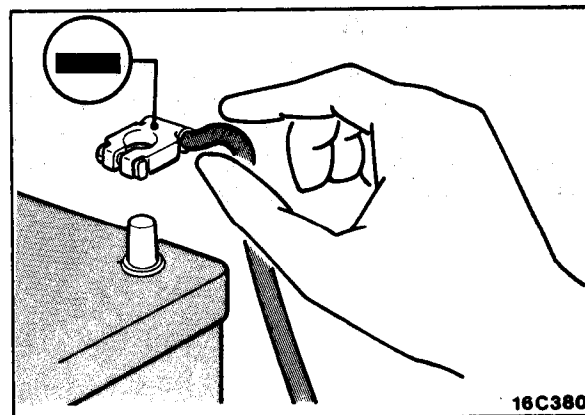


### SERVICING THE ELECTRICAL SYSTEM

When servicing the electrical system, disconnect the negative cable terminal from of the battery.

#### Caution

**Before connecting or disconnecting the negative cable, be sure to turn off the ignition switch and the lighting switch. (If this is not done, there is the possibility of semiconductor parts being damaged.)**

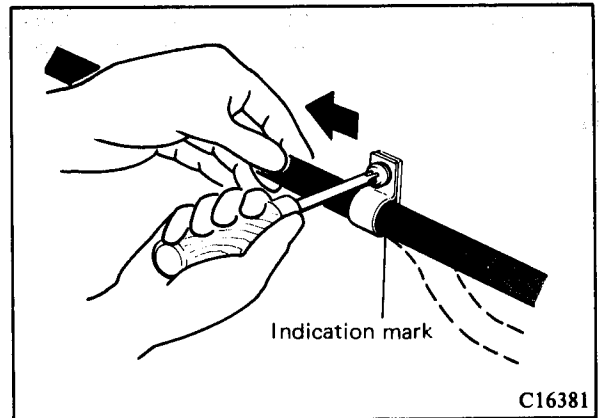




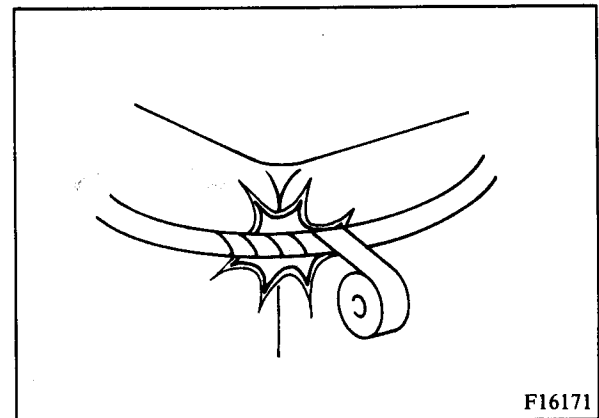


**WIRING HARNESES**

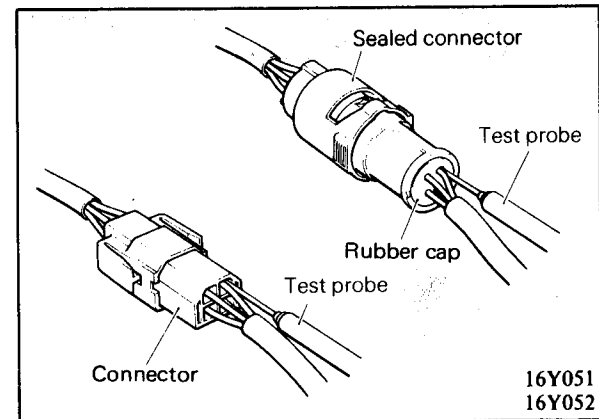
1. Secure the wiring harnesses by using clamps so that there is no slack. However, for any harness which passes to the engine or other vibrating parts of the vehicle, allow some slack within a range that does not allow the engine vibrations to cause the harness to come into contact with any of the surrounding parts. Then secure the harness by using a clamp.  
In addition, if a mounting indication mark (yellow tape) is on a harness, secure the indication mark in the specified location. (C16381)



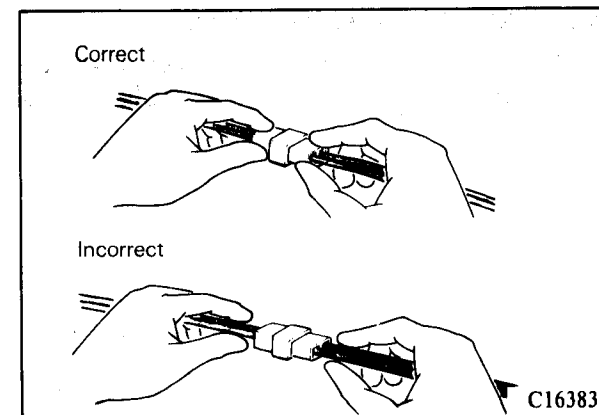
2. If any section of a wiring harness contacts the edge of a part, or a corner, wrap the section of the harness with tape or something similar in order to protect it from damage.



3. When using a circuit tester to perform continuity or voltage checks on connector terminals, insert the test probe from the harness side.  
If the connector is a sealed connector, insert the test probe into the hole in the rubber cap for the electrical wires, being careful not to damage the wire insulation. Continue to insert the test probe until it makes contact with the terminal.



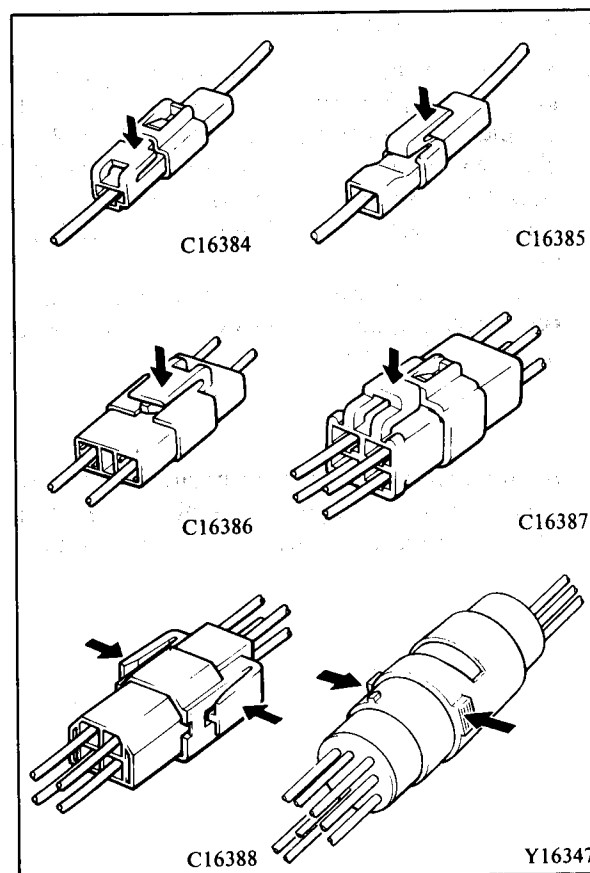
4. When disconnecting a connector, be sure to pull only the connector, not the harness.



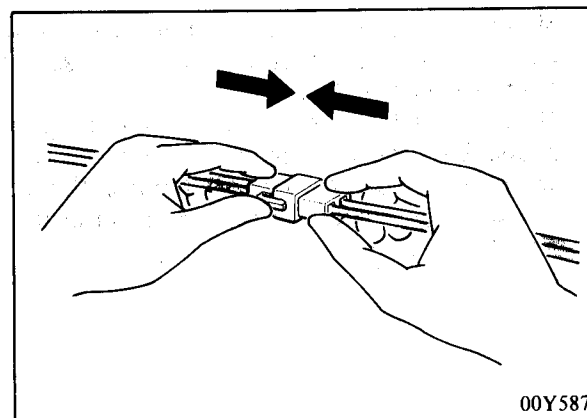


## PRECAUTIONS BEFORE SERVICE

5. Disconnect connectors which have catches by pressing in the direction indicated by the arrows in the illustration.

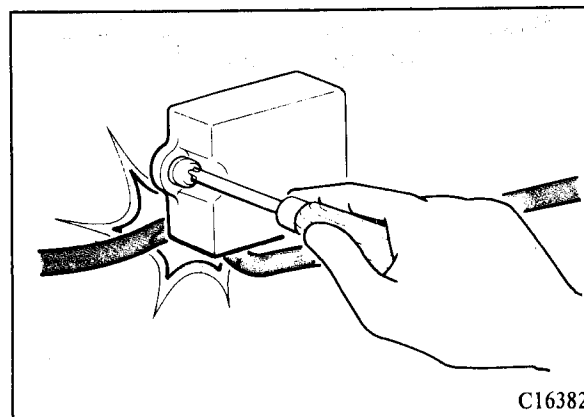


6. Connect connectors which have catches by inserting the connectors until they snap.



### ELECTRICAL COMPONENTS

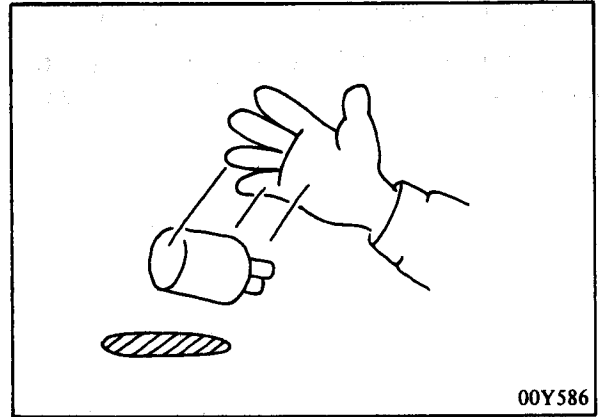
1. When installing any of the vehicle parts, be careful not to pinch or damage any of the wiring harnesses.



## PRECAUTIONS BEFORE SERVICE

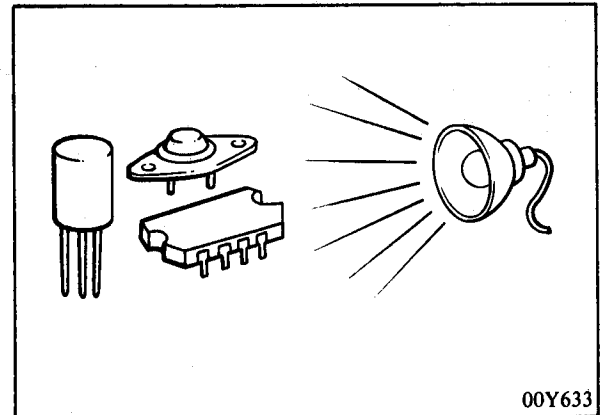


2. Sensors, relays, etc., are sensitive to strong impacts. Handle them with care so that they are not dropped or mishandled.



00Y586

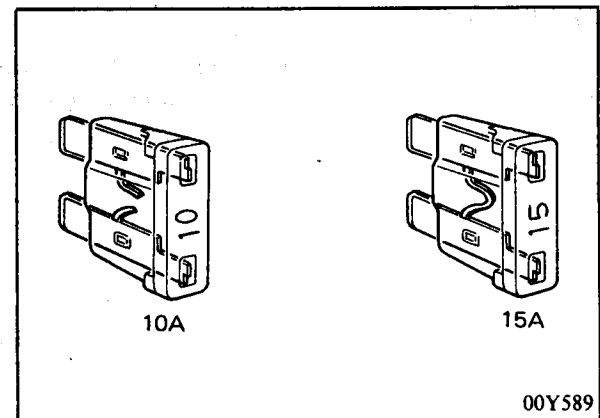
3. The electronic parts used for relays, etc., are sensitive to heat. If any service which causes a temperature of 80°C (176°F) or more is performed, remove the part or parts in question before carrying out the service.



00Y633

### FUSES AND FUSIBLE LINKS

1. If a blown-out fuse is to be replaced, be sure to use only a fuse of the specified capacity. If a fuse of a capacity larger than that specified is used, parts may be damaged and the circuit may not be protected adequately.



00Y589

2. If additional optional equipment is to be installed in the vehicle, follow the procedure listed in the appropriate instruction manual; however, be sure to pay careful attention to the following points:

- (1) In order to avoid overloading the wiring, take the electrical current load of the optional equipment into consideration, and determine the appropriate wire size.
- (2) Where possible, route the wiring through the existing harnesses.
- (3) If an ammeter or similar instrument is to be connected to a live-wire circuit, use tape to protect the wire, use a clamp to secure the wire, and make sure that there is no contact with any other parts.
- (4) Be sure to provide a fuse for the load circuit of the optional equipment.

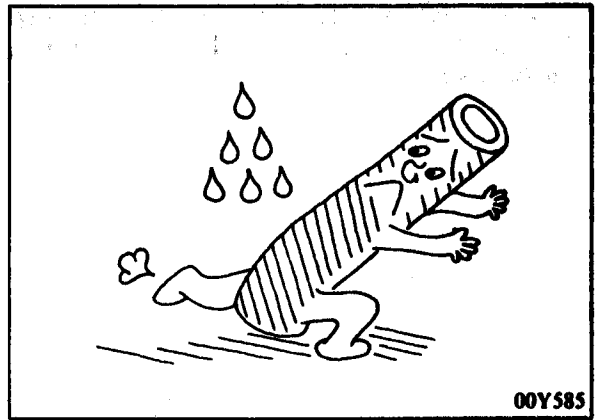
Nominal size	SAE gauge No.	Permissible current	
		In engine compartment	Other areas
0.3 mm <sup>2</sup>	AWG 22	—	5A
0.5 mm <sup>2</sup>	AWG 20	7A	13A
0.85 mm <sup>2</sup>	AWG 18	9A	17A
1.25 mm <sup>2</sup>	AWG 16	12A	22A
2.0 mm <sup>2</sup>	AWG 14	16A	30A
3.0 mm <sup>2</sup>	AWG 12	21A	40A
5.0 mm <sup>2</sup>	AWG 10	31A	54A



## PRECAUTIONS BEFORE SERVICE

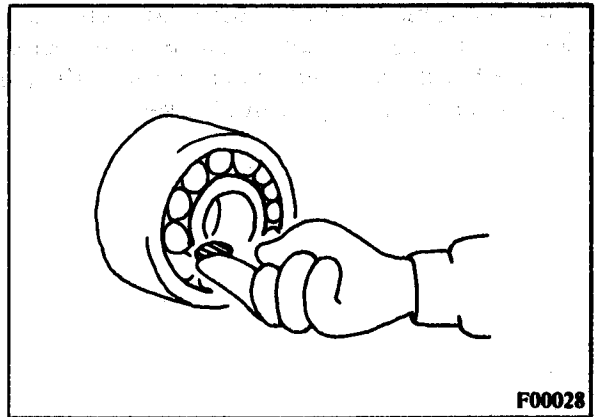
### TUBES AND OTHER RUBBER PARTS

Be careful to avoid spilling any gasoline, oil, etc., because if it adheres to any tubes or other rubber parts, they might be adversely affected.



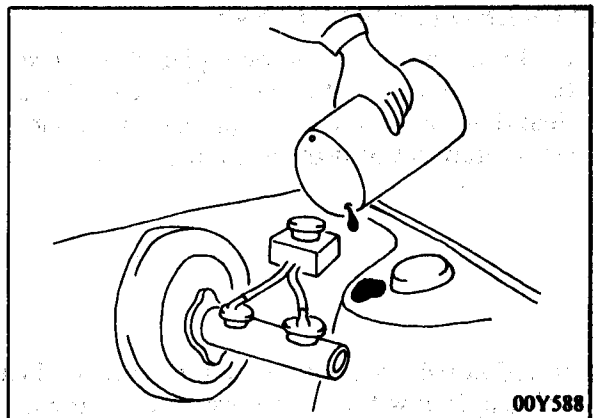
### LUBRICANTS

In accordance with the instructions in this Service Manual, apply the specified lubricants in the specified locations during assembly and installation.



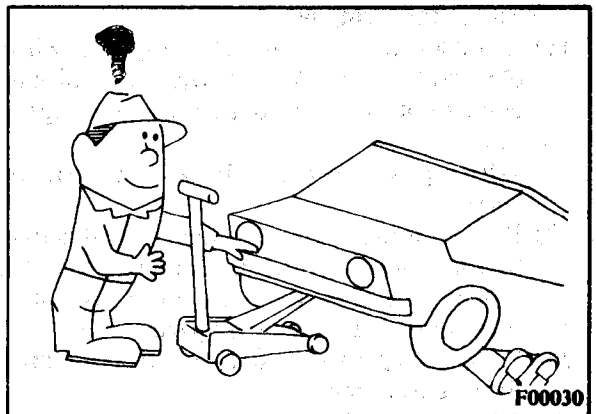
### BRAKE FLUID

Be careful to avoid spilling any brake fluid, because if it adheres to the vehicle body, the paint coat might be discolored.



### DOING SERVICE WORK IN GROUPS OF TWO OR MORE MECHANICS

If the service work is to be done by two or more mechanics working together, all the mechanics involved should take safety into consideration while they work.





**NOTE ON INSTALLATION OF RADIO EQUIPMENT**

The computer of the electronic control system has been designed so that external radio waves will not interfere with its operation.

However, if antenna or cable of amateur transceiver etc. is routed near the computers, it may affect the operation of the computers, even if the output of the transceiver is no more than 25W.

To protect each of the computers from interference by transmitter (hum, transceiver, etc.), the following should be observed.

1. Install the antenna on the roof or rear bumper.

Note: (×) Available (—) partially not available

	Recommended antenna position		Position of computer installation
	Roof	Rear bumper	
ECI system	×	×	Cowl side (on driver's side)
Rear brake back-up control system	×	—	Right side of trunk room
Speed control system	×	×	Left side of rear seat

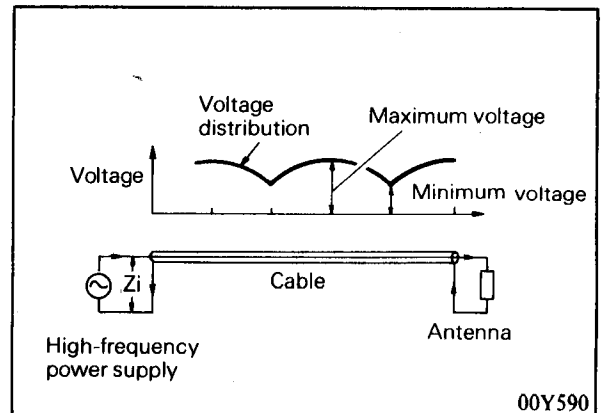
2. Because radio waves are emitted from the coaxial cable of the antenna, keep it 200 mm (7.9 in.) away from the computers and the wiring harness. If the cable must cross the wiring harness, route it so that it runs at right angles to the wiring harness.
3. The antenna and the cable should be well matched, and the standing-wave ratio\* should be kept low.

**\*Standing-wave ratio**

If an antenna and a cable having different impedances are connected, the input impedance  $Z_i$  will vary in accordance with the length of the cable and the frequency of the transmitter, and the voltage distribution will also vary in accordance with the location.

The ratio between this maximum voltage and minimum voltage is called the standing-wave ratio. It can also be represented by the ratio between the impedances of the antenna and the cable.

The amount of radio waves emitted from the cable increases as the standing-wave ratio increases, and this increases the possibility of the electronic components being adversely affected.





## PRECAUTIONS BEFORE SERVICE

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4. A transmitter having a large output should not be installed in the vehicle.
5. After installation of transmitter, perform the following test and make sure that there is no abnormality.
  - (a) On ECI system equipped cars, run the engine at idle, emit radio waves from the transmitter and make sure that the engine is not affected.
  - (b) On rear brake lock-up control system equipped cars, jack up and rotate the rear wheels, emit radio waves from the transmitter and make sure that abnormal lock does not occur in braking.
  - (c) On speed control system equipped cars, set the car speed at about 50 km per hour (31 mph) by speed control system, emit radio waves from the transmitter and make sure that the car speed does not change.



## WRECKER TOWING

1. This vehicle cannot be towed with sling-type equipment.
2. If a vehicle is towed from the front, use wheel lift or flat bed equipment.
3. If a vehicle is towed from the rear, use flat bed equipment.

### Safety Precautions

1. Any loose or protruding parts of damaged vehicle such as hoods, doors, fenders, trim, etc., should be secured prior to moving the vehicle.
2. Operator should refrain from going under a vehicle such as hood, doors, fenders, trim, etc., unless the vehicle is adequately supported by safety stands.
3. Never allow passengers to ride in a towed vehicle.
4. State and local rules and regulations must be followed when towing a vehicle.

## HOISTING

### Post Type

Special care should be taken when raising the vehicle on a frame contact type hoist. The hoist must be equipped with the proper adapters in order to support the vehicle at the proper locations. (Next page)

Conventional hydraulic hoists may be used after determining that the adapter plates will make firm contact with the front/rear crossmembers.

### Floor Jack

A regular floor jack may be used under the front/rear crossmembers.

### Cautions

1. A floor jack must never be used on any part of the underbody.
2. Do not attempt to raise one entire side of the vehicle by placing a jack midway between front and rear wheels. This practice may result in permanent damage to the body.

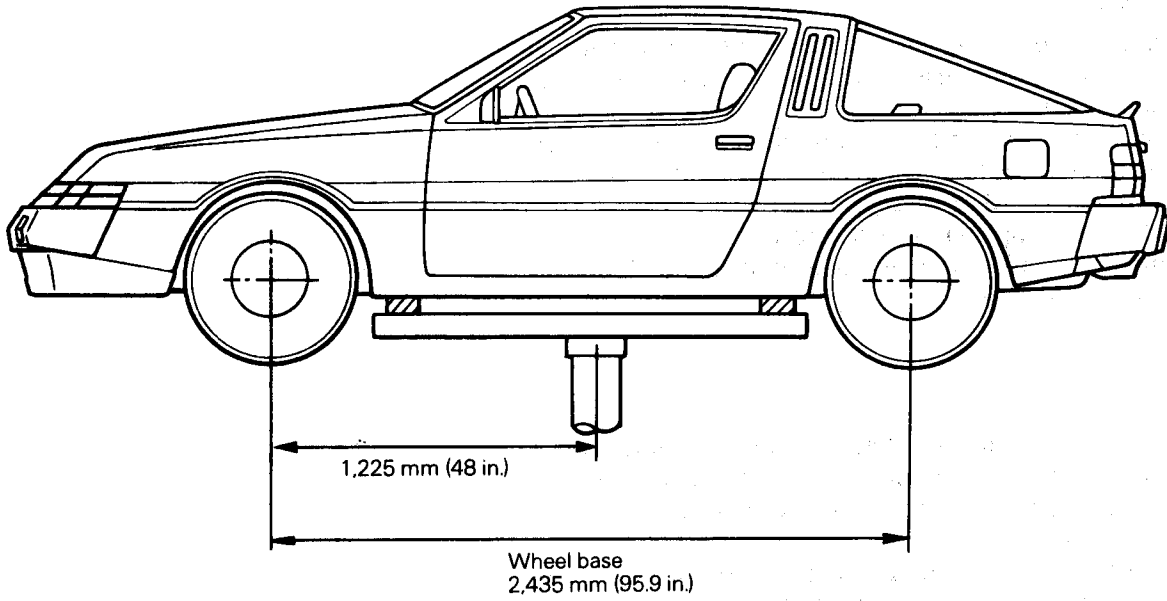
### Emergency Jacking

Jack receptacles are located at the body sills to accept the scissors jack supplied with the vehicle for emergency road service. Always block opposite wheels and jack on level surface.



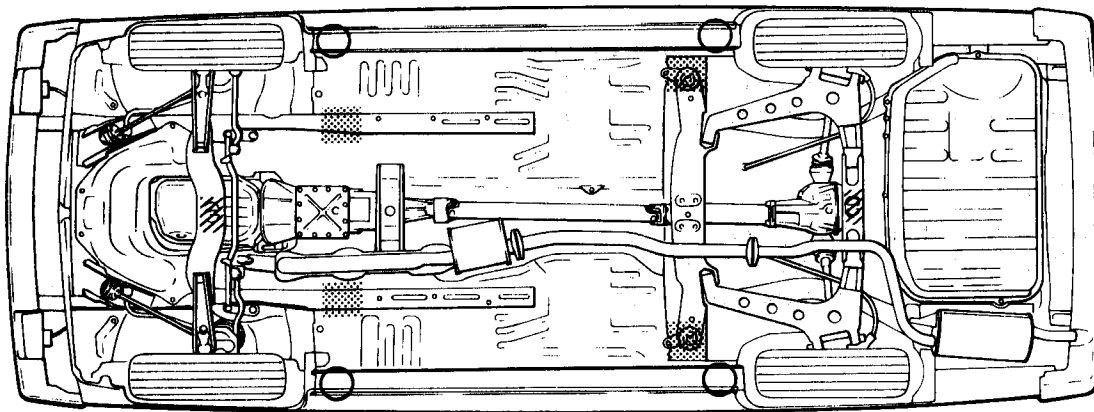
# TOWING AND HOISTING




## Frame Contact Support Location



00Y625

## Lifting, Jacking Support Location

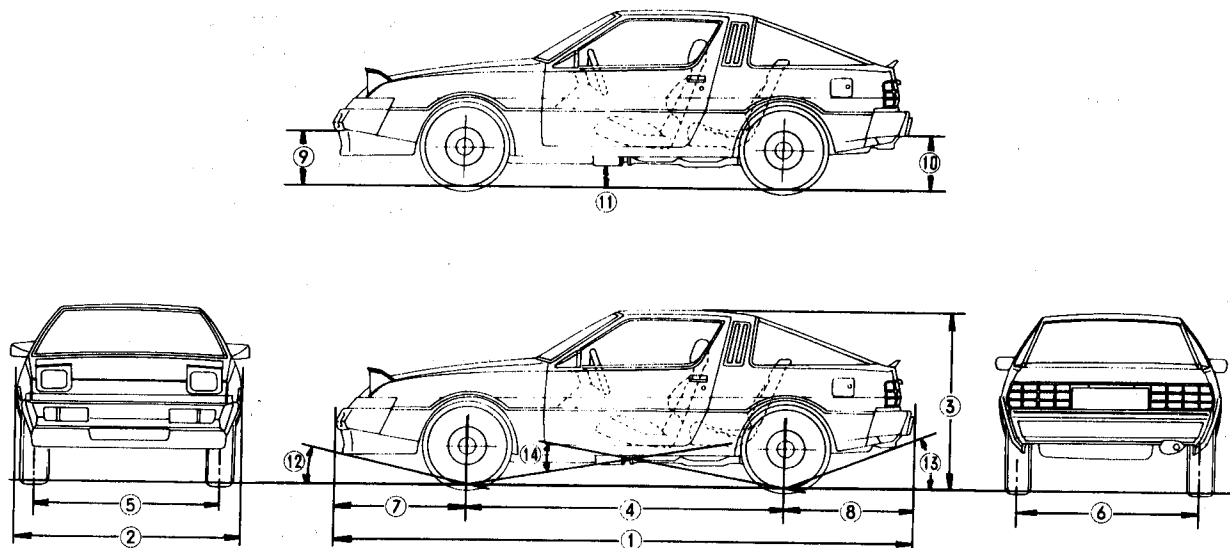


-  Frame contact hoist
-  Floor jack
-  Twin post hoist or scissors jack (emergency) locations

00Y196



# GENERAL DATA AND SPECIFICATIONS



00Y626

Description		A187AMNSL A187AMRSL	A187AMFGL
<b>Vehicle dimensions mm (in.)</b>			
Overall length	①	4,400 (173.2)	
Overall width	②	1,685 (66.3)	1,735 (68.3)
Overall height	③	1,275 ( 50.2)	
Wheel base	④	2,435 ( 95.9)	
Tread	Front	⑤	1,410 ( 55.5)
	Rear	⑥	1,400 ( 55.1)
Overhang	Front	⑦	970 ( 38.2)
	Rear	⑧	995 ( 39.2)
Height at curb mass (wt.)			
Front bumper to ground	⑨	355 ( 14.0)	
Rear bumper to ground	⑩	370 ( 14.6)	
Minimum running ground clearance	⑪	115 ( 4.5)	
Angle of approach	⑫	18°	
Angle of departure	⑬	19°	
Ramp breakover angle	⑭	12°	
<b>Vehicle weights kg (lbs.)</b>			
Curb weight		1,314 (2,897) – M/T 1,331 (2,934) – A/T	1,359 (2,996)
Gross vehicle weight rating		1,786 (3,937)	1,800 (3,969)
Gross axle weight rating	Front	880 (1,940)	
	Rear	1,000 (2,205)	
Seating capacity		5	



## GENERAL DATA AND SPECIFICATIONS

Description	A187AMNSL A187AMRSL	A187AMFGL
<b>Engine</b>		
Model No.	G54B with turbo	
Type	In line OHC	
Number of cylinders	4	
Bore	91.1 mm (3.59 in.)	
Stroke	98.0 mm (3.86 in.)	
Piston displacement	2,555 cm <sup>3</sup> (155.9 CID)	
Compression ratio	7.0	
Firing order	1-3-4-2	
Basic ignition timing	10° BTDC	
<b>Manual transmission</b>		
Model No.	KM132	
Type	5-speed manual	
Gear ratio	1st	3.369
	2nd	2.035
	3rd	1.360
	4th	1.000
	5th	0.856
	Reverse	3.578
<b>Automatic transmission</b>		
Model No.	JM600	
Type	4-speed automatic	
Gear ratio	1st	2.458
	2nd	1.458
	3rd	1.000
	4th	0.686
	Reverse	2.182
Final drive gear ratio	3.545	
<b>Clutch</b>		
Type	Dry-single disc & diaphragm spring	

# GENERAL DATA AND SPECIFICATIONS



Description	A187AMNSL A187AMRSL	A187AMFGL	
<b>Chassis</b>			
Tire	215/60R15 – 90H Radial	Front 205/55VR16 Radial	Rear 225/50VR16 Radial
Front suspension Type	Independent strut		
Rear suspension Type	Independent strut		
Brakes Type	Front	Disc	
	Rear	Disc	
Power steering Gear type	Integral type (Recirculating ball nut)		
Gear ratio	14.25 (Constant ratio gear)		
Fuel tank capacity	75 liters (19.8 U.S. gal./16.5 Imp.gal.)		



## CONVERSION TABLE

### ENGLISH AND SI METRIC MEASURE

#### Cubic Centimeters to Inches:

When changing cubic centimeters to cubic inches, multiply cubic centimeters times .061 to obtain cubic inches, (C.C.  $\times$  .061 = Cubic Inches).

#### Cubic Inches to Centimeters:

When changing cubic inches to cubic centimeters, multiply cubic inches times 16.39 to obtain cubic centimeters, (Cubic Inches  $\times$  16.39 = C.C.).

#### Liters to Cubic Inches:

When changing liters to cubic inches, multiply liters times 61.02 to obtain cubic inches, (Liters  $\times$  61.02 = Cubic Inches).

#### Cubic Inches to Liters:

When changing cubic inches to liters, multiply cubic inches times .01639 to obtain liters, (Cubic Inches  $\times$  .01639 = Liters).

#### Cubic Centimeters to Liters:

When changing cubic centimeters to liters, divide by 1,000 simply by moving the decimal point three figures to the left.

#### Liters to Cubic Centimeters:

When changing liters to cubic centimeters move the decimal point three figures to the right.

#### Miles to Kilometers:

When changing miles to kilometers, multiply miles times 1.609 to obtain kilometers (Miles  $\times$  1.609 = Kilometers).

#### Kilometers to Miles:

When changing kilometers to miles, multiply kilometers times .6214 to obtain miles, (Kilometers  $\times$  .6214 = Miles).

#### Pounds to Kilograms:

When changing pounds to kilograms, multiply pounds times .4536 to obtain kilograms, (Pounds  $\times$  .4536 = Kilograms).

#### Kilograms to Pounds:

When changing kilograms to pounds, multiply kilograms times 2.2046 to obtain pounds, (Kilograms  $\times$  2.2046 = Pounds).

#### Pounds to Newtons:

When changing pounds to newtons, multiply pounds times 4.4482 to obtain newtons, (Pounds  $\times$  4.4482 = Newtons).

#### Newtons to Pounds:

When changing newtons to pounds, multiply newtons times .2248 to obtain pounds, (Newtons  $\times$  .2248 = Pounds).

#### Foot-pounds to Newton-meters:

When changing foot-pounds to newton-meters, multiply foot-pound times 1.3558 to newton-meters, (Foot-pound  $\times$  1.3558 = Newton-meters).

#### Newton-meters to Foot-pounds:

When changing newton-meters to foot-pounds, multiply newton-meters times .7376 to foot-pounds, (Newton-meters  $\times$  .7376 = Foot-pounds).

#### Pounds Per Square Inch (psi) to Kilopascals:

When changing pounds per square inch (psi) to kilopascals, multiply pounds per square inch times 6.895 to kilopascals, (Pounds Per Square Inch (psi)  $\times$  6.895 = Kilopascals).

#### Kilopascals to Pounds Per Square Inch (psi):

When changing kilopascals to pounds per square inch (psi), multiply kilopascals times .1450 to pounds per square inch (psi), (Kilopascals  $\times$  .1450 = Pounds Per Square Inch (psi)).

# CONVERSION TABLE



## DIMENSION AND TEMPERATURE CONVERSION CHART

Inches		Milli- meters	Inches to millimeters		Millimeters to inches		Fahrenheit & Celsius				
(fraction)	(decimals)		Inches	mm	mm	Inches	°F	°C	°C	°F	
	1/64	.015625	.3969	.0001	.00254	0.001	.000039	-20	-28.9	-30	-22
	1/32	.03125	.7937	.0002	.00508	0.002	.000079	-15	-26.1	-28	-18.4
	3/64	.046875	1.1906	.0003	.00762	0.003	.000118	-10	-23.3	-26	-14.8
1/16		.0625	1.5875	.0004	.01016	0.004	.000157	-5	-20.6	-24	-11.2
	5/64	.078125	1.9844	.0005	.01270	0.005	.000197	0	-17.8	-22	-7.6
	3/32	.09375	2.3812	.0006	.01524	0.006	.000236	1	-17.2	-20	-4
	7/64	.109375	2.7781	.0007	.01778	0.007	.000276	2	-16.7	-18	-0.4
1/8		.125	3.1750	.0008	.02032	0.008	.000315	3	-16.1	-16	3.2
	9/64	.140625	3.5719	.0009	.02286	0.009	.000354	4	-15.6	-14	6.8
	5/32	.15625	3.9687	.001	.0254	0.01	.00039	5	-15.0	-12	10.4
	11/64	.171875	4.3656	.002	.0508	0.02	.00079	10	-12.2	-10	14
3/16		.1875	4.7625	.003	.0762	0.03	.00118	15	-9.4	-8	17.6
	13/64	.203125	5.1594	.004	.1016	0.04	.00157	20	-6.7	-6	21.2
	7/32	.21875	5.5562	.005	.1270	0.05	.00197	25	-3.9	-4	24.8
	15/64	.234375	5.9531	.006	.1524	0.06	.00236	30	-1.1	-2	28.4
1/4		.25	6.3500	.007	.1778	0.07	.00276	35	1.7	0	32
	17/64	.265625	6.7469	.008	.2032	0.08	.00315	40	4.4	2	35.6
	9/32	.28125	7.1437	.009	.2286	0.09	.00354	45	7.2	4	39.2
	19/64	.296875	7.5406	.01	.254	0.1	.00394	50	10.0	6	42.8
5/16		.3125	7.9375	.02	.508	0.2	.00787	55	12.8	8	46.4
	21/64	.328125	8.3344	.03	.762	0.3	.01181	60	15.6	10	50
	11/32	.34375	8.7312	.04	1.016	0.4	.01575	65	18.3	12	53.6
	23/64	.359375	9.1281	.05	1.270	0.5	.01969	70	21.1	14	57.2
3/8		.375	9.5250	.06	1.524	0.6	.02362	75	23.9	16	60.8
	25/64	.390625	9.9219	.07	1.778	0.7	.02756	80	26.7	18	64.4
	13/32	.40625	10.3187	.08	2.032	0.8	.03150	85	29.4	20	68
	27/64	.421875	10.7156	.09	2.286	0.9	.03543	90	32.2	22	71.6
7/16		.4375	11.1125	.1	2.54	1	.03937	95	35.0	24	75.2
	29/64	.453125	11.5094	.2	5.08	2	.07874	100	37.8	26	78.8
	15/32	.46875	11.9062	.3	7.62	3	.11811	105	40.6	28	82.4
	31/64	.484375	12.3031	.4	10.16	4	.15748	110	43.3	30	86
1/2		.5	12.7000	.5	12.70	5	.19685	115	46.1	32	89.6
	33/64	.515625	13.0969	.6	15.24	6	.23622	120	48.9	34	93.2
	17/32	.53125	13.4937	.7	17.78	7	.27559	125	51.7	36	96.8
	35/64	.546875	13.8906	.8	20.32	8	.31496	130	54.4	38	100.4
9/16		.5625	14.2875	.9	22.86	9	.35433	135	57.2	40	104
	37/64	.578125	14.6844	1	25.4	10	.39370	140	60.0	42	107.6
	19/32	.59375	15.0812	2	50.8	11	.43307	145	62.8	44	112.2
	39/64	.609375	15.4781	3	76.2	12	.47244	150	65.6	46	114.8
5/8		.625	15.8750	4	101.6	13	.51181	155	68.3	48	118.4
	41/64	.640625	16.2719	5	127.0	14	.55118	160	71.1	50	122
	21/32	.65625	16.6687	6	152.4	15	.59055	165	73.9	52	125.6
	43/64	.671875	17.0656	7	177.8	16	.62992	170	76.7	54	129.2
11/16		.6875	17.4625	8	203.2	17	.66929	175	79.4	56	132.8
	45/64	.703125	17.8594	9	228.6	18	.70866	180	82.2	58	136.4
	23/32	.71875	18.2562	10	254.0	19	.74803	185	85.0	60	140
	47/64	.734375	18.6531	11	279.4	20	.78740	190	87.8	62	143.6
3/4		.75	19.0500	12	304.8	21	.82677	195	90.6	64	147.2
	49/64	.765625	19.4469	13	330.2	22	.86614	200	93.3	66	150.8
	25/32	.78125	19.8437	14	355.6	23	.90551	205	96.1	68	154.4
	51/64	.796875	20.2406	15	381.0	24	.94488	210	98.9	70	158
13/16		.8125	20.6375	16	406.4	25	.98425	212	100.0	75	167
	53/64	.828125	21.0344	17	431.8	26	1.02362	215	101.7	80	176
	27/32	.84375	21.4312	18	457.2	27	1.06299	220	104.4	85	185
	55/64	.859375	21.8281	19	482.6	28	1.10236	225	107.2	90	194
7/8		.875	22.2250	20	508.0	29	1.14173	230	110.0	95	203
	57/64	.890625	22.6219	21	533.4	30	1.18110	235	112.8	100	212
	29/32	.90625	23.0187	22	558.8	31	1.22047	240	115.6	105	221
	59/64	.921875	23.4156	23	584.2	32	1.25984	245	118.3	110	230
15/16		.9375	23.8125	24	609.6	33	1.29921	250	121.1	115	239
	61/64	.953125	24.2094	25	635.0	34	1.33858	255	123.9	120	248
	31/32	.96875	24.6062	26	660.4	35	1.37795	260	126.6	125	257
	63/64	.984375	25.0031	27	690.6	36	1.41732	265	129.4	130	266



# CONVERSION TABLE

## CAPACITY CONVERSION TABLE



U.S. gal.	Imperial gal.	U.S. gal.	Imperial gal.	U.S. gal.	Imperial gal.
1/4	1/5	7	5-3/4	15	12-1/2
1/2	3/8	7-1/4	6	15-1/2	13
3/4	5/8	7-1/2	6-1/4	16	13-1/4
		7-3/4	6-1/2	16-1/2	13-3/4
1	3/4			16-3/4	14
1-1/4	1	8	6-3/4		
1-1/2	1-1/4	8-1/4	6-3/4	17	14-1/4
1-3/4	1-1/2	8-1/2	7	17-1/2	14-1/2
		8-3/4	7-1/4	18	15
2	1-3/4	9	7-1/2	18-1/2	15-1/2
2-1/4	1-3/4	9-1/4	7-3/4	19	15-3/4
2-1/2	2	9-1/2	8	19-1/2	16-1/4
2-3/4	2-1/4	9-3/4	8	20	16-3/4
				20-1/2	17
3	2-1/2	10	8-1/4		
3-1/4	2-3/4	10-1/4	8-1/2	21	17-1/2
3-1/2	3	10-1/2	8-3/4	21-1/2	18
3-3/4	3	10-3/4	9	22	18-1/4
				22-1/2	18-3/4
4	3-1/4	11	9-1/4	23	19-1/4
4-1/4	3-1/2	11-1/4	9-1/4	23-1/2	19-1/2
4-1/2	3-3/4	11-1/2	9-1/2	24	20
4-3/4	4	11-3/4	9-3/4	24-1/2	20-1/2
5	4-1/4	12	10	25	20-3/4
5-1/4	4-1/4	12-1/4	10-1/4	25-1/2	21-1/4
5-1/2	4-1/2	12-1/2	10-1/2	26	21-3/4
5-3/4	4-3/4	12-3/4	10-1/2	26-1/2	22
				27	22-1/2
6	5	13	10-3/4	27-1/2	23
6-1/4	5-1/4	13-1/2	11-1/4	28	23-1/4
6-1/2	5-1/2	14	11-3/4	29	24-1/4
6-3/4	5-1/2	14-1/2	12	30	25

## CAPACITY CONVERSION U.S. GALLONS TO LITERS

Gallons	0	1	2	3	4	5	6	7	8	9
	Liters									
10	37.854	37.854	75.708	113.562	151.416	189.270	227.124	264.978	302.832	340.686
20	75.708	113.562	151.416	189.270	227.124	264.978	302.832	340.686	378.540	416.394
30	113.56	151.416	189.270	227.124	264.978	302.832	340.686	378.540	416.394	454.248
40	151.42	189.270	227.124	264.978	302.832	340.686	378.540	416.394	454.248	492.102
50	189.27	227.124	264.978	302.832	340.686	378.540	416.394	454.248	492.102	529.956
60	227.12	264.978	302.832	340.686	378.540	416.394	454.248	492.102	529.956	567.810
70	264.98	302.832	340.686	378.540	416.394	454.248	492.102	529.956	567.810	605.664
80	302.83	340.686	378.540	416.394	454.248	492.102	529.956	567.810	605.664	643.518
90	340.69	378.540	416.394	454.248	492.102	529.956	567.810	605.664	643.518	681.372

# TIGHTENING TORQUE



Description	Torque Nm (ft.lbs.)				Remarks
	Head mark 		Head mark 		
<b>Thread for general purposes (size x pitch) (mm)</b>					
6 x 1.0	3.0 to 3.9	(2.2 to 2.9)	4.9 to 7.8	(3.6 to 5.8)	
8 x 1.25	7.9 to 12	(5.8 to 8.7)	13 to 19	(9.4 to 14)	
10 x 1.25	16 to 23	(12 to 17)	27 to 39	(20 to 29)	
12 x 1.25	29 to 43	(21 to 32)	47 to 72	(35 to 53)	
14 x 1.5	48 to 70	(35 to 52)	77 to 110	(57 to 85)	
16 x 1.5	67 to 100	(51 to 77)	130 to 160	(90 to 120)	
18 x 1.5	100 to 150	(74 to 110)	180 to 230	(130 to 170)	
20 x 1.5	150 to 190	(110 to 140)	160 to 320	(190 to 240)	
22 x 1.5	200 to 260	(150 to 190)	340 to 430	(250 to 320)	
24 x 1.5	260 to 320	(190 to 240)	420 to 550	(310 to 410)	
<b>Taper thread for pipes (size)</b>					
PT 1/8		7.9 to 12 16 to 19	(5.8 to 8.7) (12 to 14)		Internal thread : Aluminum Internal thread : Cast iron
PT 1/4		19 to 30 34 to 45	(14 to 22) (25 to 33)		Internal thread : Aluminum Internal thread : Cast iron
PT 3/8		39 to 54 58 to 73	(29 to 40) (43 to 54)		Internal thread : Aluminum Internal thread : Cast iron
<b>Taper thread for dry sealed pipes (size)</b>					
NPTF 1/16		4.9 to 7.8 7.9 to 12	(3.6 to 5.8) (5.8 to 8.7)		Internal thread : Aluminum Internal thread : Cast iron
NPTF 1/8		7.9 to 12 16 to 19	(5.8 to 8.7) (12 to 14)		Internal thread : Aluminum Internal thread : Cast iron
NPTF 1/4		19 to 30 34 to 45	(14 to 22) (25 to 33)		Internal thread : Aluminum Internal thread : Cast iron