SERVICE MANUAL

DATSUN 240Z SPORTS

ENGINE
CHASSIS AND BODY
1972

NISSAN

NISSAN MOTOR CO., LTD.
TOKYO, JAPAN

P/N 20030C

NISSAN

SERVICE MANUAL

MODEL
L20A, L24 SERIES
ENGINES



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TOKYO, JAPAN

QUICK REFERENCE INDEX

ENGINE GENERAL ..... EG
ENGINE TUNE-UP ..... ET
ENGINE MECHANICAL ..... EM
ENGINE LUBRICATION SYSTEM ..... EL
COOLING SYSTEM ..... CO
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FOREWORD

This service manual has been prepared for the purpose of assisting service personnel of our distributors and dealers for effective service and maintenance of model L20A, L24 series engines.

Since proper maintenance and service are most essential to satisfy our customers by keeping their cars in the best condition, this manual should be read carefully. The following should be noted for effective utilization of this manual.

1. Please for complete detail of the car refer to this and DATSUN 240Z SPORTS SERVICE MANUAL and DATSUN 2000 SERVICE MANUAL, because this manual describes information concerning the engine.

2. All part names in this manual conform to DATSUN 240Z SPORTS PARTS CATALOG and DATSUN 2000 and 2400 PARTS CATALOGS, and only the genuine service parts listed in these parts catalogs should be used for replacement.

3. All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of publication approval.

4. It is emphasized that those who use this manual revise the contents according to the SERVICE JOURNAL and SERVICE DATA AND SPECIFICATIONS issued by the factory, which carry the latest factory approved servicing method.

5. Rights for alternation in specifications and others at any time are reserved.

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TOKYO, JAPAN

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DATSUN
240Z SPORTS

SERVICE MANUAL

MODEL S30 SERIES
CHASSIS & BODY



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TOKYO, JAPAN

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SERVICE MANUAL

DATSUN 240Z SPORTS
MODEL S30 SERIES

CHASSIS & BODY

NISSAN MOTOR CO., LTD.
TOKYO, JAPAN

GI

SECTION GI

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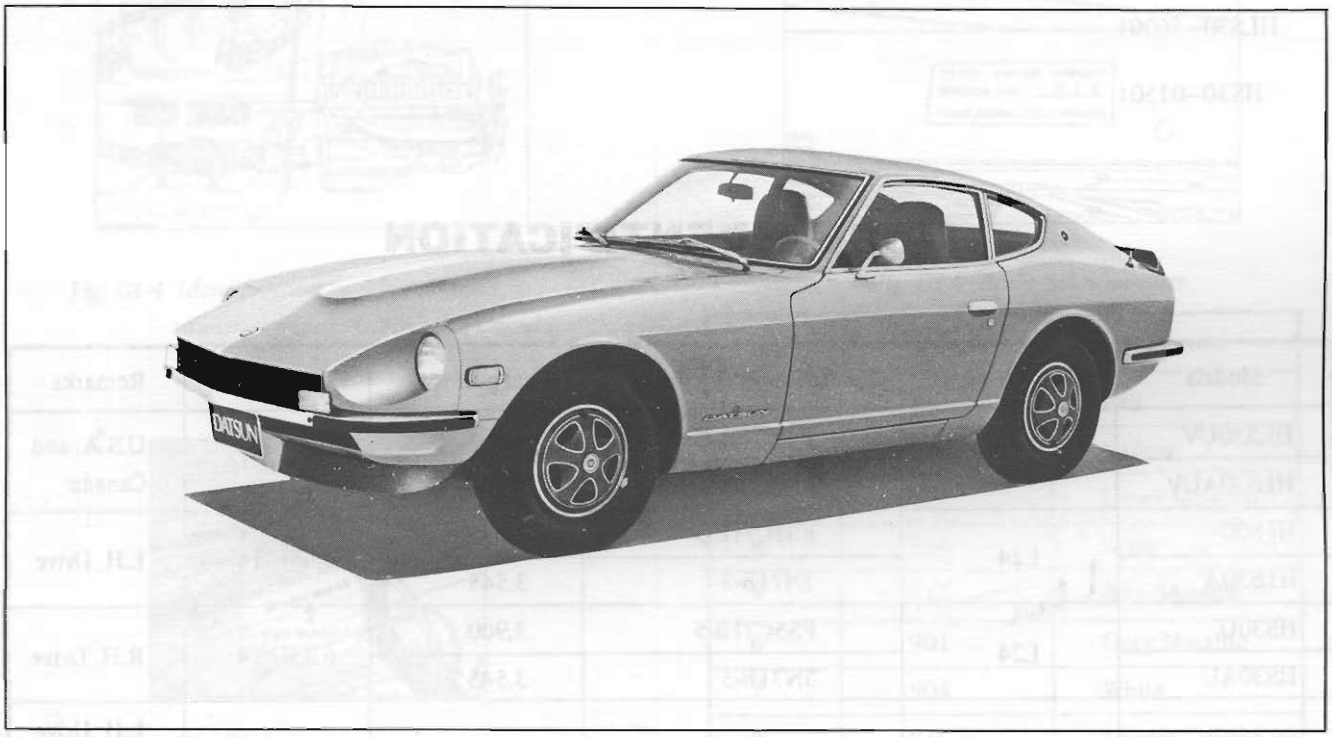


Fig. GI-1 DATSUN 240Z SPORTS (Model HLS30-U)

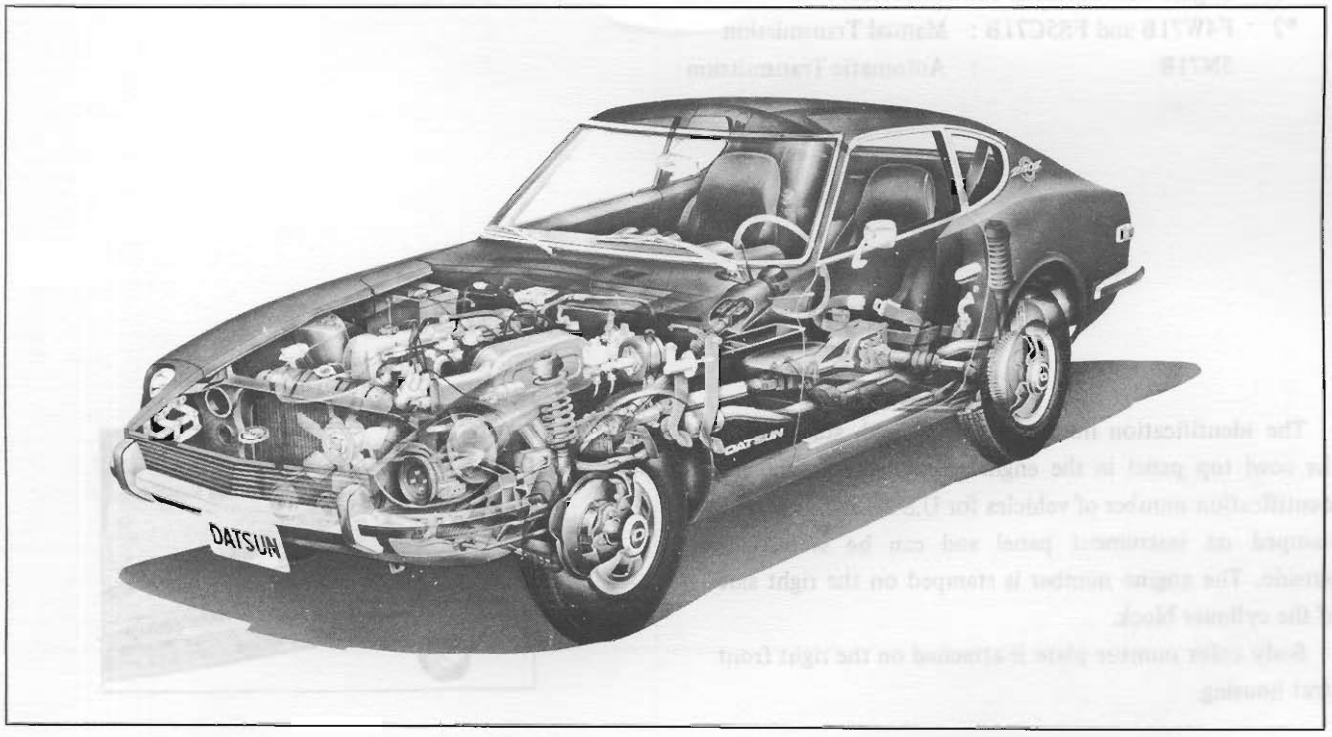


Fig. GI-2 Clairvoyant view (Model HLS30-U)

This service manual is applicable to the 1972 model S30 series vehicles which are listed below:

HLS30–46001

HS30–01501

MODEL IDENTIFICATION

Models	Engine type	Transmission type-speed*2	Final gear ratio	Tire size	Remarks
HLS30UV	L24*1	F4W71B-4	3.364	175HR-14	U.S.A. and Canada
HLS30AUV		3N71B-3	3.545		
HLS30	L24	FS5C71B-5	3.900	6.45H-14	L.H. Drive
HLS30A		3N71B-3	3.545		
HS30U	L24	FS5C71B-5	3.900	6.45H-14	R.H. Drive
HS30AU		3N71B-3	3.545		
HLS30Q	L24	FS5C71B-5	3.900	175HR-14	L.H. Drive for Europe
HS30Q					R.H. Drive for Europe

*1 Engine with emission control device.

*2 F4W71B and FS5C71B : Manual Transmission
3N71B : Automatic Transmission

IDENTIFICATION NUMBER

The identification number is, in general, stamped on the cowl top panel in the engine compartment, and the identification number of vehicles for U.S.A. and Canada is stamped on instrument panel and can be seen from outside. The engine number is stamped on the right side of the cylinder block.

Body color number plate is attached on the right front strut housing.

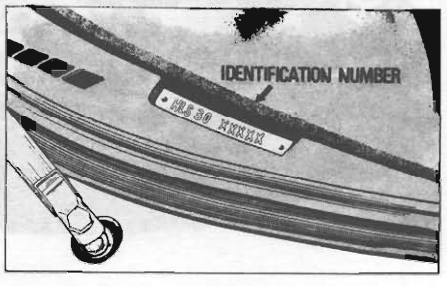


Fig. GI-3 Identification number (For U.S.A. and Canada only)

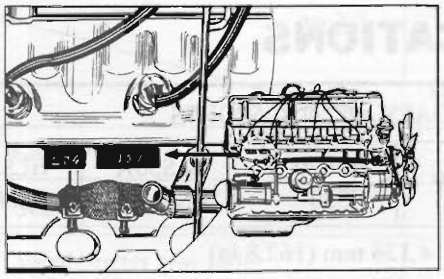


Fig. GI-4 Identification number (For all countries except U.S.A. and Canada)

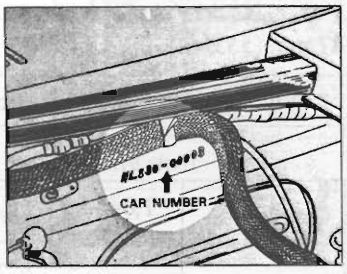


Fig. GI-5 Engine number

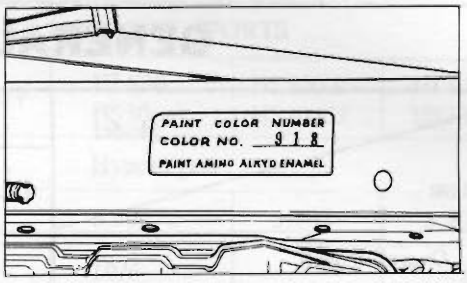


Fig. GI-6 Body color number

Body color number		Body color
1	110	Red
2	112	Yellow
3	113	Green Metallic
4	114	Gold
5	115	Blue Metallic
6	901	Gray Metallic
7	904	White
8	918	Orange

GENERAL SPECIFICATIONS

Item \ Model			DATSUN 240Z SPORTS				
			HLS30UV	HLS30AUV	HLS30 HS30	HLS30A HS30AU	HLS30Q HS30Q
Dimensions & Weight	Overall length		4,136 mm (162.8 in)				
	Overall width		1,630 mm (64.1 in)				
	Overall height		1,283 mm (50.5 in)				
	Wheel base		2,305 mm (90.7 in)				
	Tread	Front	1,356 mm (53.3 in)				
		Rear	1,347 mm (53.0 in)				
	Minimum road clearance		161 mm (6.3 in)				
	Seating capacity		2				
	Vehicle weight		1,066 kg (2,350 lb)	1,089 kg (2,400 lb)	1,043 kg (2,300 lb)	1,045 kg (2,370 lb)	1,043 kg (2,300 lb)
Performance	Maximum speed		200 km/h (125 mph)	185 km/h (116 mph)	205 km/h (129 mph)	185 km/h (116 mph)	205 km/h (129 mph)
	Maximum grade ability (Sin θ)		0.436	0.428	0.436	0.428	0.436
	Minimum turn radius		4.8 m (15.7 ft)				
Engine model			L24*1		L24		
Clutch type			Dry single disc Diaphragm spring.	——	Dry single disc Diaphragm spring.	——	Dry single disc Diaphragm spring.
Transmission	Model		F4W71A	3N71B	FS5C71B	3N71B	FS5C71B
	Synchro type		Warner	——	Servo	——	Servo
	Control system		Floor shift				
	Gear ratio	1st	3.592	2.458	2.906	2.458	2.906
		2nd	2.246	1.458	1.902	1.458	1.902
		3rd	1.415	1.000	1.308	1.000	1.308
		4th	1.000	——	1.000	——	1.000
		5th	——	——	0.864	——	0.864
		Reverse	3.657	2.182	3.820	2.182	3.820

*1 Engine with emission control device

Item \ Model			DATSUN 240Z SPORTS				
			HLS30UV	HLS30AUV	HLS30 HS30	HLS30A HS30AU	HLS30Q HS30Q
Final gear	Gear type		Hypoid gear				
	Gear ratio		3.364	3.545	3.900*2	3.545	3.900
Speedometer gear ratio			17/6	———	19/6	———	19/6
Suspension	Front	Type	Independent strut type				
		Spring	Coil spring				
		Shock absorber type	Telescopic double-acting				
	Rear	Type	Independent strut type				
		Spring	Coil spring				
		Shock absorber type	Telescopic double-acting				
		Drive shaft	Ball spline				
Brake system	Front		Girling-Sumitomo S-16 type Disc brake				
	Rear		Leading training type with Self-adjuster				
		Drum	Aluminum drum with fins				
	Parking		Mechanical operated on rear wheels				
	Master Vac		6 in				
	Master cylinder		7/8 in tandem Master cylinder				
	Skid control valve		Proportioning valve				
Fuel tank	Tank capacity		60 ℓ (15 7/8 U.S. gal. 13 1/4 Imper. gal.)				
	Reservoir tank capacity		*4.2 ℓ (1 1/8 U.S. gal. 7/8 Imper. gal.)	———			
Battery			N50Z	N50			N50Z
Steering	Gear type		Rack-and-pinion				
	Lock to lock		2.7				
Wheel & Tire	Size		175HR-14	6.45H14-4PR 165HR-14 6.95H14-4PR			175HR-14
	Rim size		14 - 5J				

* For U.S.A. California
*2 Option: 3.545, 3.700

LUBRICATION CHART

LUBRICATING POINTS	MAINTENANCE INTERVAL											
Number of thousands of Kilometers	1	5	10	15 55	20 60	25 65	30 70 90	35 75	40 80	45 85 92	50	100
Number of thousands of Miles	0.6	3	6	9 33	12 36	15 39	18 42 54	21 45	24 48	27 51 57	30	60
Change engine oil	X	X	X	X	X	X	X	X	X	X	X	X
Change or check transmission & differential gear oil level, top up if necessary	R	X	X	X	X	X	X	X	X	X	R	R
Check automatic transmission fluid level, top up if necessary	X	X	X	X	X	X	X	X	X	X	X	X
Change brake fluid reservoir					X				X			X
Change cooling water			X		X		X		X		X	X
Change cooling water (L.L.C.)									X			
Grease distributor shaft & cam heel			X		X		X		X		X	X
Check SU-carburetor damaper oil level, top up if necessary		X	X	X	X	X	X	X	X	X	X	X
Lubricate accelerator linkage			X		X		X		X		X	X
Lubricate foot operated pedal bushings					X				X			X
Grease parking brake linkage									X			
Grease steering linkage ball joints											X	X
Grease suspension ball joints											X	X
Change steering gear housing grease reservoir											X	X
Repack wheel bearing grease											X	X
Grease rear axle drive shaft joints & ball spline											X	X
Grease propeller shaft joints											X	X
Lubricate all locks and hinges			X		X		X		X		X	X

R: Replacement

CHECKING CHART

ENGINE SERVICE POINTS	MAINTENANCE INTERVAL											
Number of thousands of Kilometers	1	5	10	15 55	20 60	25 65	30 70 90	35 75	40 80	45 85 92	50	100
Number of thousands of Miles	0.6	3	6	9 33	12 36	15 39	18 42 54	21 45	24 48	27 51 57	30	60
Replace carburetor air cleaner element									X			
Check or replace spark plugs		X	X	X	R	X	X	X	R	X	X	R
Check or replace distributor breaker points		X	X	X	R	X	X	X	R	X	X	R
Replace oil filter	X		X		X		X		X		X	X
Replace cartridge type fuel strainer									X			
Retighten cylinder head bolts and manifold nuts	X											
Adjust valve clearance	X		X		X		X		X		X	X
Check and adjust ignition timing	X	X	X	X	X	X	X	X	X	X	X	X
Check high tension cables					X				X			X
Check fan belt tension	X		X		X		X		X		X	X
Adjust engine idling	X	X	X	X	X	X	X	X	X	X	X	X
Engine tune-up					X				X			X
Check fuel line (hoses, pipings, connections, etc.) for leaks	X	X	X	X	X	X	X	X	X	X	X	X
Check engine for oil and water leaks	X		X		X		X		X		X	X
Check battery specific gravity	X				X				X			X
Check air pump belt tension	X	X	X	X	X	X	X	X	X	X	X	X
Check hose & piping connections for loose (A.I.S. & P.C.V.)					X				X			X
Check air pump for operation					X				X			X
Check emission control valves for operation					X				X			X

R: Replacement

CHASSIS & BODY SERVICE POINTS	MAINTENANCE INTERVAL											
Number of thousands of Kilometers	1	5	10	15 55	20 60	25 65	30 70 90	35 75	40 80	45 85 92	50	100
Number of thousands of miles	0.6	3	6	9 33	12 36	15 39	18 42 54	21 45	24 48	27 51 57	30	60
Check clutch & brake pedal free play	X		X		X		X		X		X	X
Check clutch & brake system (cylinders, hoses, pipings, connections, etc.) for leaks or defects	X	X	X	X	X	X	X	X	X	X	X	X
Check foot & hand brake operation		X	X		X		X		X		X	X
Check brake linings and liners for wear					X				X			X
Check disc brake pads			X	X	X	X	X	X	X	X	X	X
Check Master-Vac for operation					X				X			X
Overhaul Master-Vac									X			
Overhaul brake cylinders & caliper assembly											X	X
Check P-valve for operation											X	X
Check hydraulic shock absorber					X				X			X
Check and retighten suspension parts	X		X		X		X		X		X	X
Check and retighten steering gear box and linkage	X		X		X		X		X		X	X
Adjust front wheel bearing pre-load											X	X
Check wheel discs for damage			X		X		X		X		X	X
Check wheel balance and rotate wheel position			X		X		X		X		X	X
Check front wheel alignment and turning angle					X				X			X
Retighten propeller shaft universal joint flange bolts	X				X				X			X
Check head light aiming											X	X
Road test	X		X		X		X		X		X	X

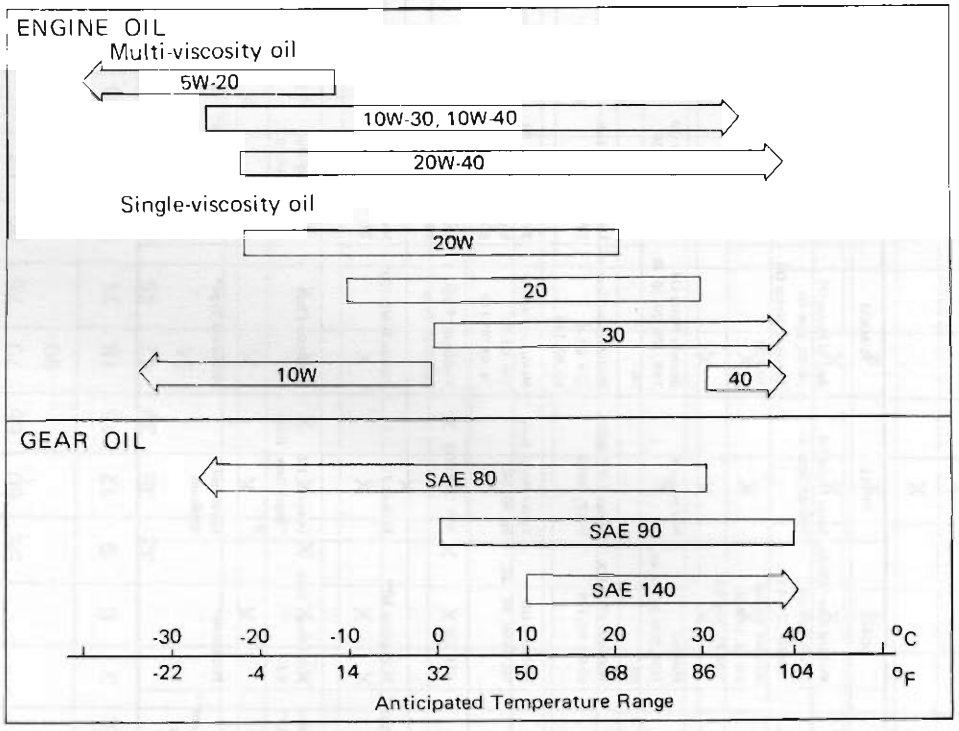
RECOMENDED LUBRICANTS

PRODUCING			BP	CALTEX	CASTROL	CHEVRON	ESSO	MOBIL	SHELL	SUNOCO	TEXACO	TOTAL
ENGINE OIL	Gasoline	Multigrade SD MIL-L-2104B	Super Viscostatic 5W-20, 10W-40, 20W-50	Custom Five Star Motor Oil 10W-30, 10W-40, 20W-40, 20W-50	Castrolite 10W-30 XL 20W-40	Supreme Motor Oil 5W-30, 10W-30, 10W-40, 20W-40	Uniflo 5W-30, 10W-40 Extra Motor Oil 5W-20, 10W-30, 20W-40	Mobiloil Super 5W-30, 5W-40, 10W-40, 10W-50, 20W-50 Mobiloil Special 5W-20, 10W-30, 20W-40, 20W-50	Super Motor Oil 10W-40, 20W-50	Special Motor Oil 5W-30, 10W-40 Dynalube Motor Oil 10W-30	Havoline Super Premium 5W-30, 10W-40, 20W-50	GTS 10W-30, 20W-40, 20W-50
		Monograde SD MIL-L-2104B	Energol HD Oil 10W, 20W, 30, 40	Not available	SHD, 10HD, 20HD, 30HD, 40HD, 50HD	Special Motor Oil 10W, 20W-20, 30, 40, 50	Not available	Mobiloil 10W, 20W-20, 30, 40, 50	Not available	Sunlube Motor Oil 10W, 20W-20, 30, 40, 50	Havoline Motor Oil 10W, 20W-20, 30, 40, 50	Super HD 10W, 20W-20, 30, 40, 50
GEAR OIL	Transmission & Steering	API GL-4 MIL-L-2105	Gear Oil EP 80, 90, 140	Universal Thuban 80, 90, 140	Hypoy 80, 90, 140	Multiservice Gear Lub. 75, 80, 90, 140	Gear Oil GP 80, 90, 140	Mobilube EP or GX 80-90, 90, 140	Spirax 75EP, 80EP, 90EP, 140EP	Multipurpose Gear Lub. GL-4 80, 90, 140	Universal Gear Lub. EP 80, 90, 140	Extreme Pression 80, 90, 140
	Differential	API GL-5 MIL-L-2105B	Limslip 90-1 90	3450 Gear Oil 90 Multipurpose Thuban EP 80, 90, 140	Hypoy LS	Universal Gear Lub. 75, 80, 90, 140	Gear Oil GX 80, 90, 140	Mobilube HD 80, 80-90, 90, 140	Spirax Heavy Duty 80, 90, 140	Multipurpose Gear Lub. GL-5 75, 80, 90, 140	3450 Gear Oil 90 Multigear Lub. EP 80, 90, 140	Extreme Pression Type B 80, 90, 140
Automatic T/M Fluid		Type DEXRON (3N71B A/T)	Autran DX	Texamatic Fluid DEXRON	TQ DEXRON	ATF	ATF	ATF 220	ATF DEXRON	Transmatic Fluid DEXRON Type	Texamatic Fluid DEXRON	DEXRON
Multi-purpose grease		Lithium soap NLGI 2	Energrease L-2*	Marfak Multipurpose 2*	LM Grease*	Automotive Grease Medium*	Multipurpose Grease*	Mobilgrease MP*	Retinax A	Prestige II WB-500*	Marfak Multipurpose 2*	Multis*
Brake & Clutch Fluid		SAE J1703a	Disc Brake Fluid	Heavy Duty Brake Fluid	G.B.F. Crimson Girling B.F. Green GT (LMA)	Atlas Brake Fluid Super Heavy Duty 450	Brake Fluid HD400, 500 "HD400, 450"	Super Heavy Duty B.F.	Donax B, HB "Super Heavy Duty B.F."	460 Brake Fluid	Super Heavy Duty Motor Vehicle B.F.	Brake Fluid
Antifreeze Coolant (L.L.C.)			Antifrost	Startex Antifreeze Coolant	Antifreeze	Atlas Perma Guard Antifreeze*	Antifreeze* "Long Life Coolant"* "Atlas Long Life Coolant RAD"*	Permazone*	Glyeoshell* Shellzone	Permanent Type*	Antifreeze Coolant* Startex Antifreeze Coolant*	Antigel*

" " is only for U.S.A. and CANADA.

* In case the above brand oils are not available, it is permissible to use oils marked*

RECOMENDED LUBRICANTS



APPROXIMATE REFILL CAPACITIES

		Liters	U.S. Measure	Imper. Measure
Fuel tank		60	15 7/8 gal.	13 1/4 gal.
Engine cooling system		8	2 1/8 gal.	1 3/4 gal.
Engine crank case *1		5.0	5 1/4 qts.	4 3/8 qts.
Transmission case	Manual	1.5	3 1/8 pts.	2 5/8 pts.
	Automatic	5.5	5 7/8 qts.	4 7/8 qts.
Differential case		1.0	2 1/8 pts.	1 3/4 pts.

*1. Includes 1 7/8 U.S. pts., (1 5/8 Imper. pts., 0.9 liter) required for oil filter replacement.

JACKING UP AND TOWING THE CAR

CONTENTS

JACK UP GI-11
Pantograph jack GI-11
Garage jack GI-11
Supportable point GI-11
TOWING GI-12

JACK UP

Pantograph jack

Apply a jack to the indicated position where sill flange is cut for identification. Do not jack up other position.

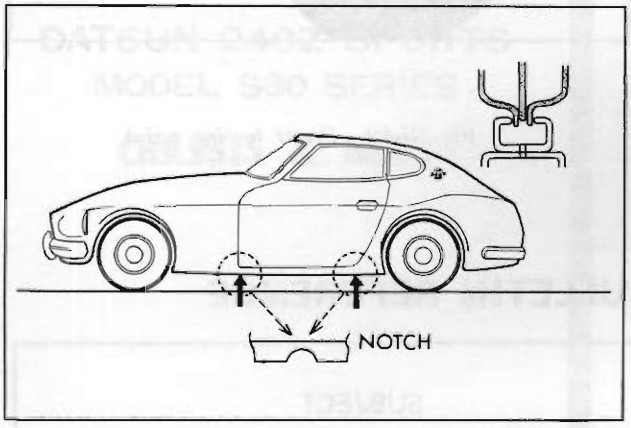


Fig. GI-7 Jacking point

Garage jack

The front jacking point is center of front suspension member and rear is differential gear carrier.

Do not apply a jack to center portion of front suspension transverse link

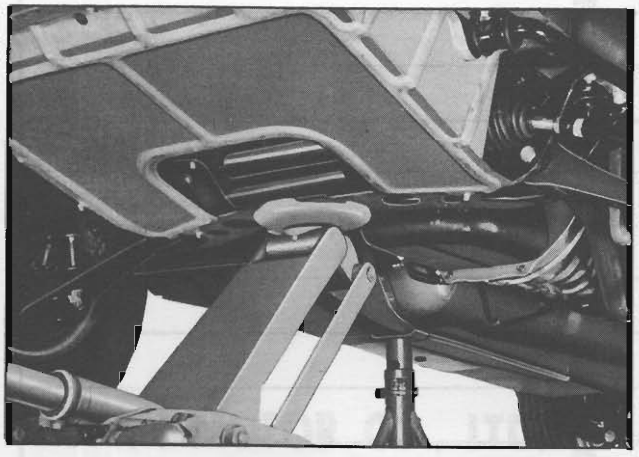


Fig. GI-8 Front jacking point

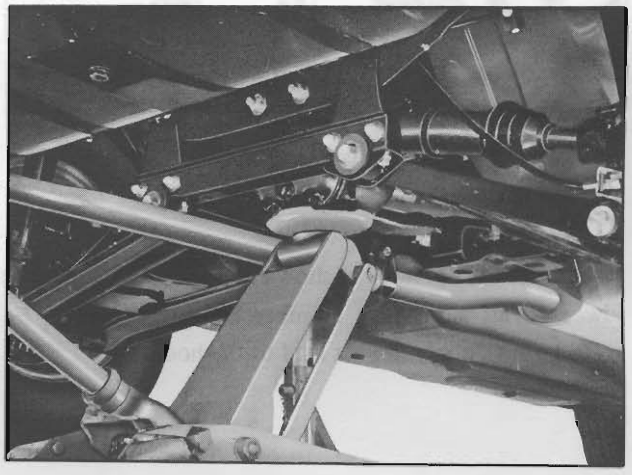


Fig. GI-9 Rear jacking point

Supportable point

Front supportable points for stand are both front side members. Rear supportable points are both sides of front differential mounting cross member.

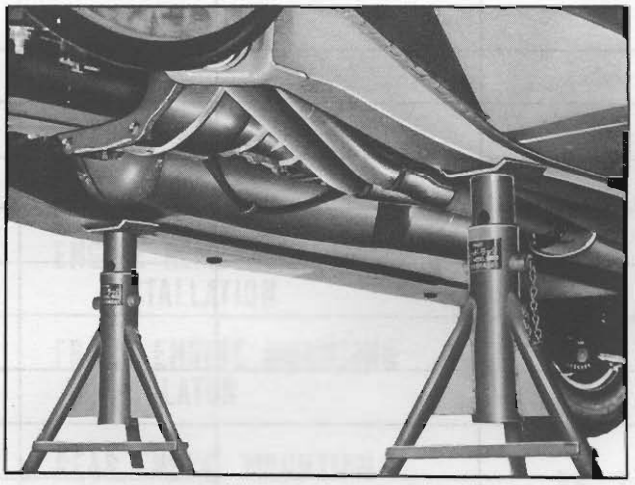


Fig. GI-10 Front supportable point

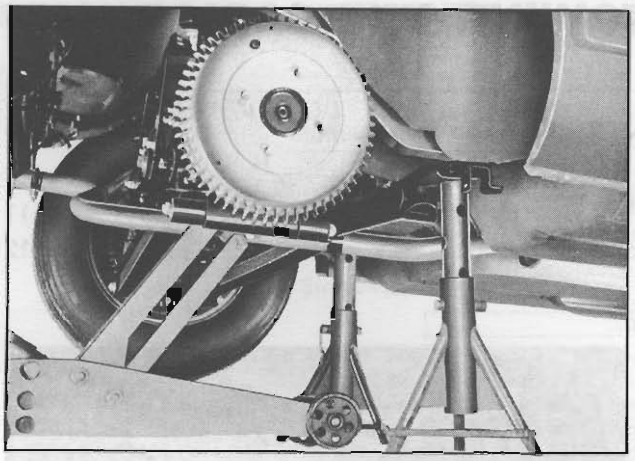


Fig. GI-11 Rear supportable point

TOWING

Tow forward at hook as shown in Figure GI-11. Do not tow at front suspension member or transverse link. Be careful not to apply impact load to the hook.

Admittable load of hook is less than 1,000 kg (2,205 lb).

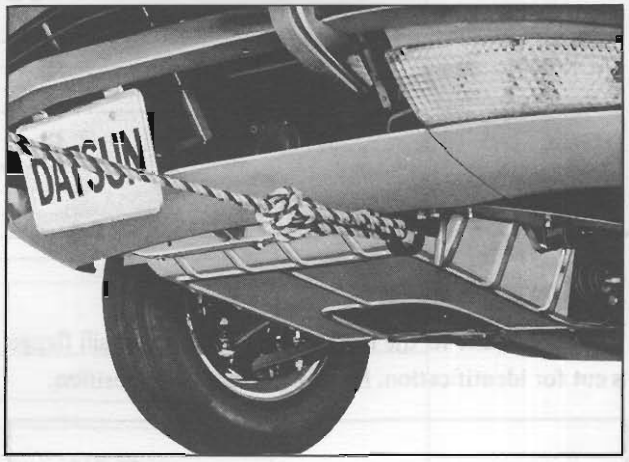


Fig. GI-12 Front towing point

SERVICE JOURNAL OR BULLETIN REFERENCE

DATE	JOURNAL or BULLETIN No.	PAGE No.	SUBJECT