



# **VOLVO**

## **Competition Service.**

### **PARTS AND EQUIPMENT CATALOG**

**\$2.00**

# VOLVO

## Competition Service.



ORGANIZATION ORDER PROCEDURES POLICIES NOTES	<b>1</b>
ENGINE TUNING KITS	<b>2A</b>
ENGINE PARTS	<b>2B</b>
FUEL SYSTEMS	<b>2C</b>
IGNITION INSTRUMENTS LIGHTING	<b>3</b>
POWER TRAIN	<b>4</b>
SUSPENSION BRAKES	<b>5</b>
BODY OFF-ROAD EQUIPMENT	<b>6</b>
COMPETITION ACCESSORIES & CLOTHING	<b>7</b>
TECHNICAL ADVICE & SPECIFICATIONS	<b>8</b>







# SECTION 1

Organization

Policies

Procedures

Catalog Instructions



## ORGANIZATION

### Sweden

Volvo Competition Service was formed in 1971 by AB Volvo in Goteborg, Sweden.

It was a new name for the "Competition Department" that actively campaigned the 544 and 122 models in European rally circles during the mid-sixties.

Today it distributes competition parts and equipment and offers advice and service to private Volvo rallyists in Europe and Volvo subsidiaries around the world.

### U. S. A.

Volvo of America decided to establish a branch of Volvo Competition Service here in the U.S. during 1973. It was decided to locate the department at Volvo Western Distributing in Torrance, California, due to the high concentration of motorsport minded people and businesses in the area.

Volvo Competition Service - U.S.A. is responsible for the marketing and distribution of all genuine factory competition parts and equipment in the United States.

The entire range of products is stocked at Volvo Western Distributing and is shipped only to authorized Volvo dealers in the U.S.

Some of the equipment is designed strictly for competition off-road use and will be labeled as such. It is the owner's/ user's risk and responsibility to check for any violation of federal and state emission, safety and motor vehicle standards.

Any questions concerning parts availability, specifications, technical advice or prices may be mailed or telephoned to:

VOLVO COMPETITION SERVICE  
1955-190th Street  
Torrance, CA 90509

(213) 770-1550

Hours - Monday through Friday 8:30 to 5:15

All orders for parts and equipment must be placed through the Volvo dealer.

### GUARANTEE

Volvo Competition Service parts and equipment are warranted for 12 months from the date of purchase and/or installation. The warranty covers the repair or replacement of any item or component found defective because of workmanship or material.

This warranty, however, does not apply to any vehicle used in competition race type events.



## CATALOG INSTRUCTIONS

The new Competition Service parts catalog follows the basic format of the catalog/Microfiche as supplied by AB Volvo Parts Division.

Each one of the sections pertain to a particular subject or area of the vehicle. That is, anything electrical will be found in one section and anything dealing with the engine will be found in another.

Quarterly up-dates will be issued to each catalog holder with their respective sections for insertion indicated in a cover letter.

### Notes

\*Standard Part - Any part number with an asterisk appearing next to it is a standard Volvo part. Although Volvo Competition Service sometimes includes standard parts in various kits, it is impossible to order these standard parts from VCS on an individual basis.

Therefore, Volvo dealers must order all parts with an asterisk from their local area Volvo distributorship.

( ) - Any number appearing in parenthesis under the "Specification" column represents a measurement in either weight or size for a standard part. This is provided so that a comparison can be made between a competition part and the equivalent standard part.



## SECTION 2

### Engine

- 2A Tuning Kits
- 2B Engine Parts
- 2C Fuel System

### Tuning parts for B18 engine



**VOLVO**

PROD	SECTION
P130, P140, P1800	2A
Tuning Parts B18	NO. 1
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
1	4	419315-7	Inlet valve	Size 42mm (40) <u>Note</u> - Valve stem is smaller diameter for less flow restriction
2	4	419316-5	Exhaust valve	Size 35mm (34)
3	8	*418737-3	Valve spring	
4	8	*403500-2	Washer for valve spring	
5	8	*405357-5	Protective ring	
16		*403315-5	Valve collet	
	4	419378-5	Guide sleeve, inlet valve	Smaller i.d.
	4	*403390-8	Guide sleeve, exhaust valve	Smaller i.d.
6	1	419393-4	Cylinder head gasket - High compression	
	1	419658-0	Cylinder head gasket (for engine re-bored to 0.040" oversize)	
8	1	419392-6	Lightened Flywheel	18 lbs. (21)
9	1	419395-9	Cover oil pump for improved pick-up	
10	1	*418693-8	Timing gear cover with double neoprene seal	

### Tuning parts for B18 engine

**VOLVO**

Competition Service

Tuning Parts B18  
Continued

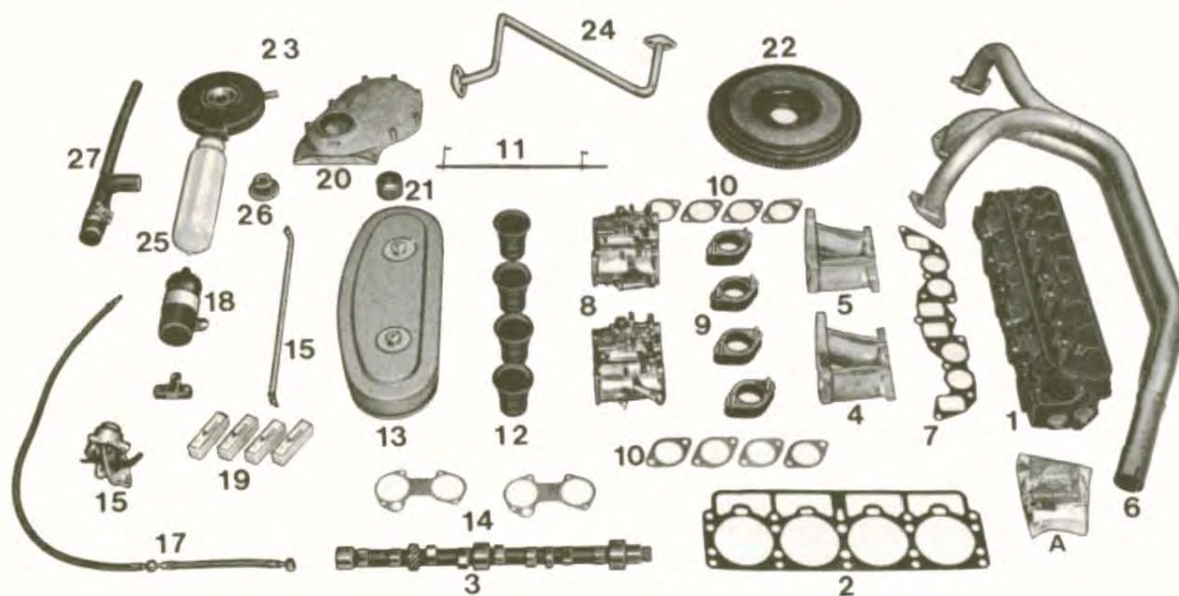
SECTION

2A

NO.

2

Pos	Qty	Part No.	Description	Specification
11	1	*418668-0	Neoprene seal for above	
12	1	*418264-8	Hub for belt pulley	
13	1	419381-9	Branched exhaust manifold	2 inch end diameter 4 into 2 into 1.
16	1	*241086-8	Ignition coil (high putput)	
17	1	*241612-1	Resistor	
18	4	*240571-0	Spark plug Bosch W280T13S	
	4	*238624-1	Spark plug Bosch W240T1	



Trimningssats B20

Det nr 552861-7

Tuning kit B20

Part No 552861-7

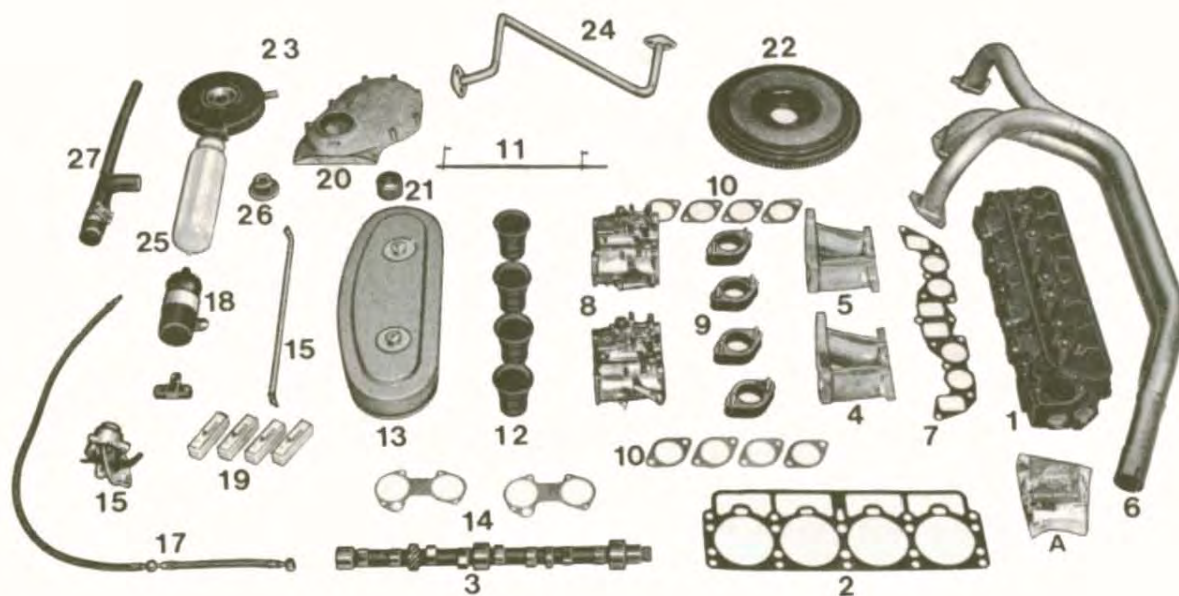


**VOLVO**

*Competition  
Service*

PROD P130, P140, P1800	SECTION 2A
Tuning Kit B20	NO. 3
DATE May, 1975	

Pos	Qty	Part No.	Description	Specification
		552861-7	Tuning kit B20 Stage I, complete	Approx. 145 h. p. DIN
			Tuning kits are enclosed in a large wooden crate that includes many standard parts as well. All kit parts may be purchased individually.	
1	1	419882-6	Cylinder head complete	
	4	*419766-1	x Inlet valve	(std. F.I. 44mm)
	4	*419735-6	x Exhaust valve	(std. F.I. 35mm)
	8	*418737-3	x Valve spring	
	8	*419644-0	x Washer for valve spring	
	8	*419702-6	x Valve seal	
	16	*419643-2	x Valve collet	
	4	*419652-3	x Guide sleeve, inlet valve	
	4	*419653-1	x Guide sleeve, exhaust valve	
	2	*950586-8	x Cylindrical stud	
2	1	824855-1	Cylinder head gasket - High compression	Thickness 1.2mm
3	1	552460-8	Camshaft F hard-chromed	Lift .425 Duration 300°
	8	552466-5	Valve tappet hard-chromed	
4	1	419883-4	Inlet manifold, front	
5	1	419844-2	Inlet manifold, rear	
	2	422635-3	Plug for inlet manifold	



Trimningssats B20

Det nr 552861-7

Tuning kit B20

Part No 552861-7

**VOLVO**

Competition Service

Stage I Kit  
Continued

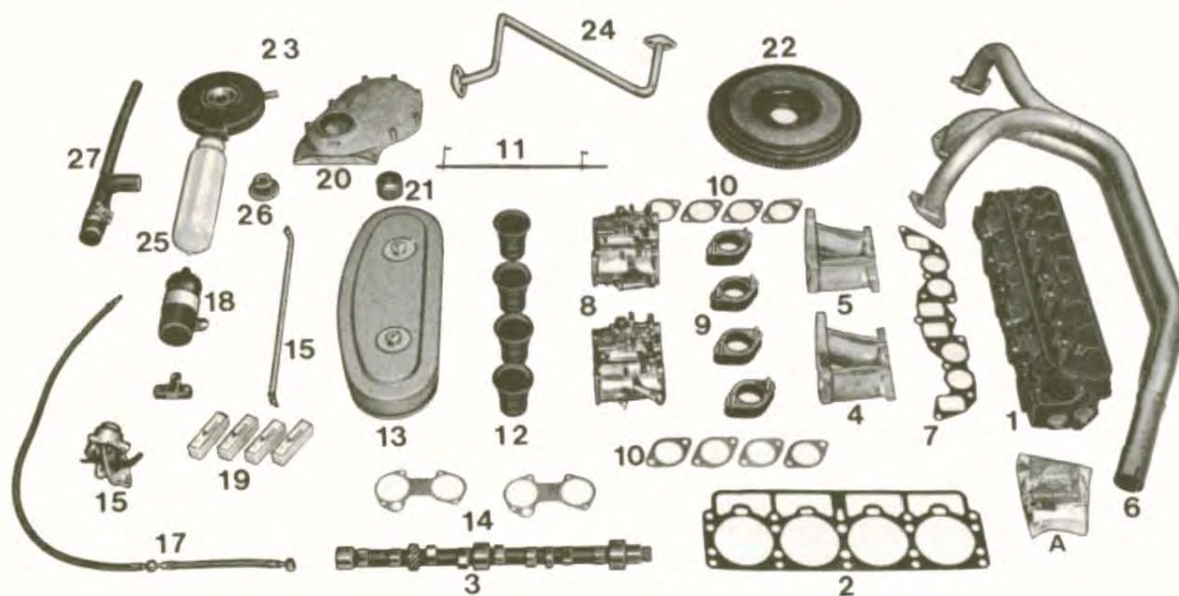
SECTION

2A

NO.

4

Pos	Qty	Part No.	Description	Specification
	1	*952075-0	Plug for inlet manifold	
6	1	419381-9	Branched exhaust manifold	4 into 2 into 1 2 inch collector
7	1	*419764-6	Gasket for exhaust manifold	
8	2	552600-9	Carburetor - Solex 45DDH Twin choke	
11	1	684899-8	Upper shaft, complete, for throttle control, '67 - '72	
	1	1206549-6	Upper shaft, complete for throttle control, '73 - '74	
	1	1206551-2	Bracket for throttle control	
	2	*955512-9	Screw	
	8	953461-1	Stud bolt	
	8	*955826-3	Nut	
16		*941907-8	Washer	
	8	*955847-9	Nut	
9	4	824643-1	Rubber flange for carburetor	
10	8	819769-1	Gasket for carburetor	
	1	686057-1	Intermediary shaft	
	1	*943936-5	Control rod	
12	4	824708-2	Air intake	
13	1	684036-7	Air cleaner complete	
	1	552620-7	x Air cleaner insert	
	2	552621-5	x Nut	
	2	552622-3	x Washer	
14	2	419906-3	Gasket	
	8	953032-0	Stud bolt	



Trimningssats B20

Det nr 552861-7

Tuning kit B20

Part No 552861-7



**VOLVO**

Competition Service

Stage I Kit  
Continued

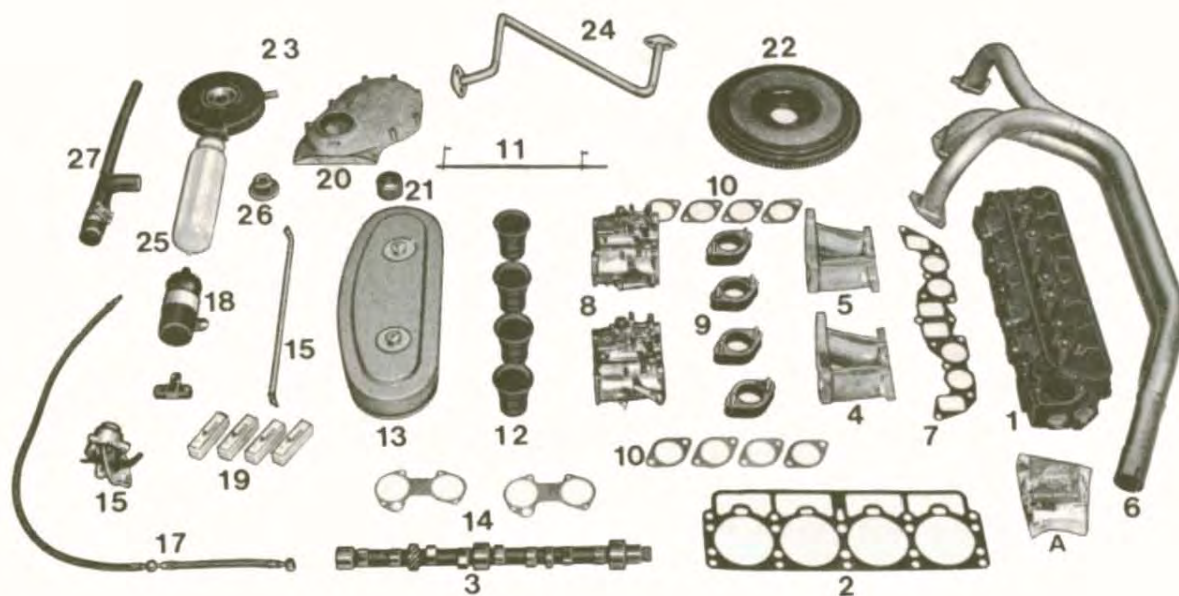
SECTION

2A

NO.

5

Pos	Qty	Part No.	Description	Specification
	8	*946035-3	Nut	
	1	*668558-0	Lever, front	
	1	*668559-8	Lever, rear	
	1	*959088-6	Ball socket	
	1	*942837-6	Ball socket	
	1	*955780-2	Nut	
	1	*942836-8	Nut	
15	1	460047-4	Stay for air cleaner	
	1	*940097-9	Washer	
	1	*960142-8	Washer	
	1	*955536-8	Screw	
	1	*950354-1	Nut	
16	1	831092-2	Fuel pump	
	1	*946600-4	Nipple for fuel pump	
17	1	825856-8	Fuel hose	
	2	825857-6	Banjo screw for fuel hose	
	4	*957173-8	Gasket for banjo screw	
	2	825858-4	Strainer for fuel hose	
18	1	*241086-8	Ignition coil	
	1	*241612-1	Resistor	
19	4	*238624-1	Spark plug Bosch W240T1	
20	1	*418693-8	Timing gear cover with neoprene seal	
21	1	*418624-8	Hub for belt pulley	
22	1	419392-6	Flywheel complete	



Trimningssats B20

Det nr 552861-7

Tuning kit B20

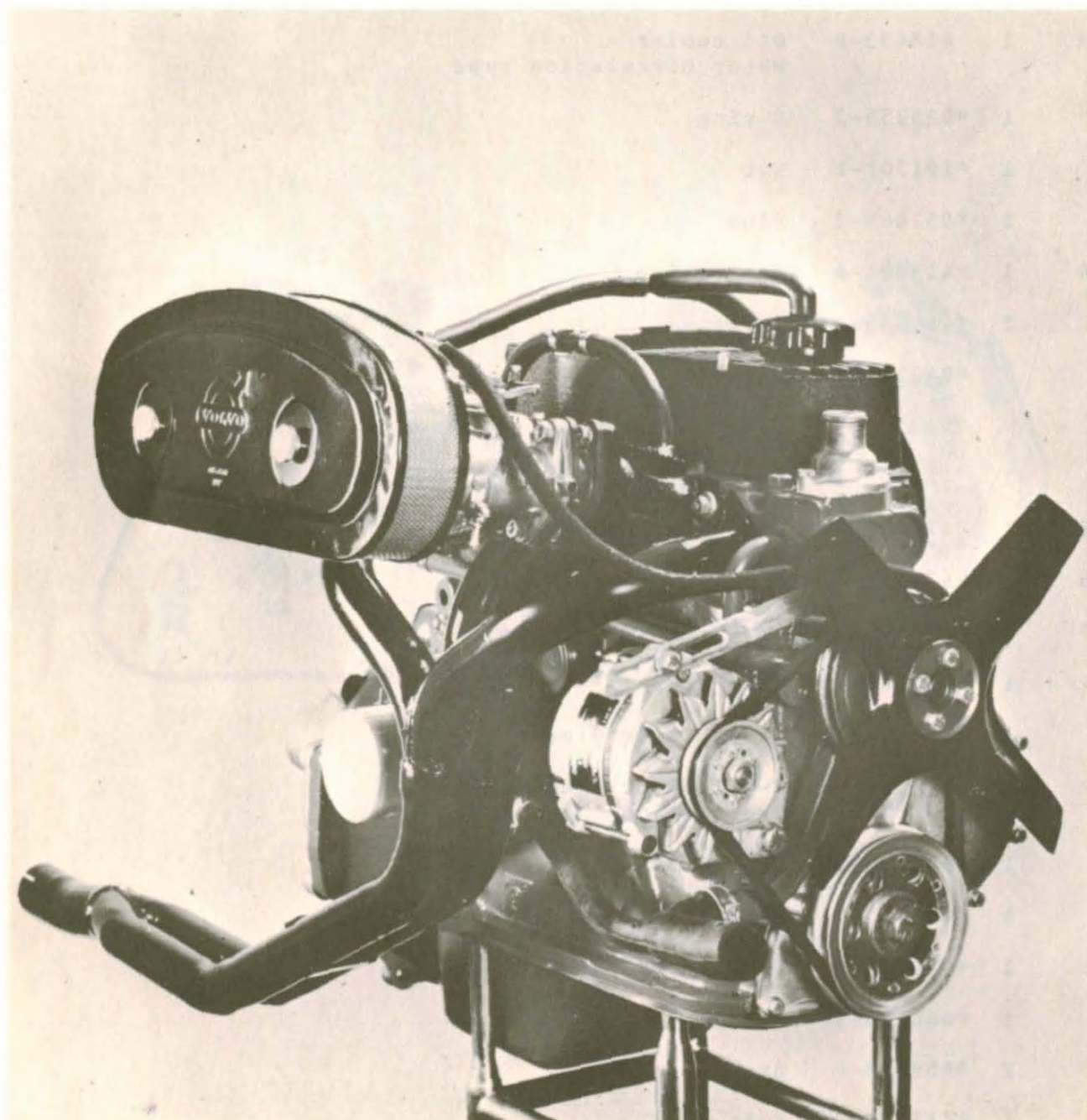
Part No 552861-7

<b>VOLVO</b> Competition Service	SECTION 2A	NO. 6
-------------------------------------	---------------	----------

Stage I Kit  
Continued

Pos	Qty	Part No.	Description	Specification
23	1	418433-9	Oil cooler - Water circulation type	
	1	*925255-2	O-ring	
	1	*191701-2	Nut	
	1	*952069-3	Plug	
24	1	*418651-6	Water pipe	
	2	*418445-3	Gasket	
	2	*940100-1	Screw	
	2	*955512-9	Screw	
	1	*418601-1	Nipple	
25	1	*676558-0	Expansion tank	
26	1	*673336-4	Pressure cap	
27	1	*671840-7	Lower radiator hose	
	1	*951789-7	Hose clip	
	1	*460464-1	Water inlet pipe	
	1	552551-4	T-union for crankcase ventilation	
	1	*943706-2	Tube 0.3 m	
	4	*942928-3	Clamp	
	1	*419446-0	T-union	
	1	*666143-3	Bushing	
	2	*959093-6	Brace	
	1	*955273-8	Bolt	
	1	*955781-0	Nut	



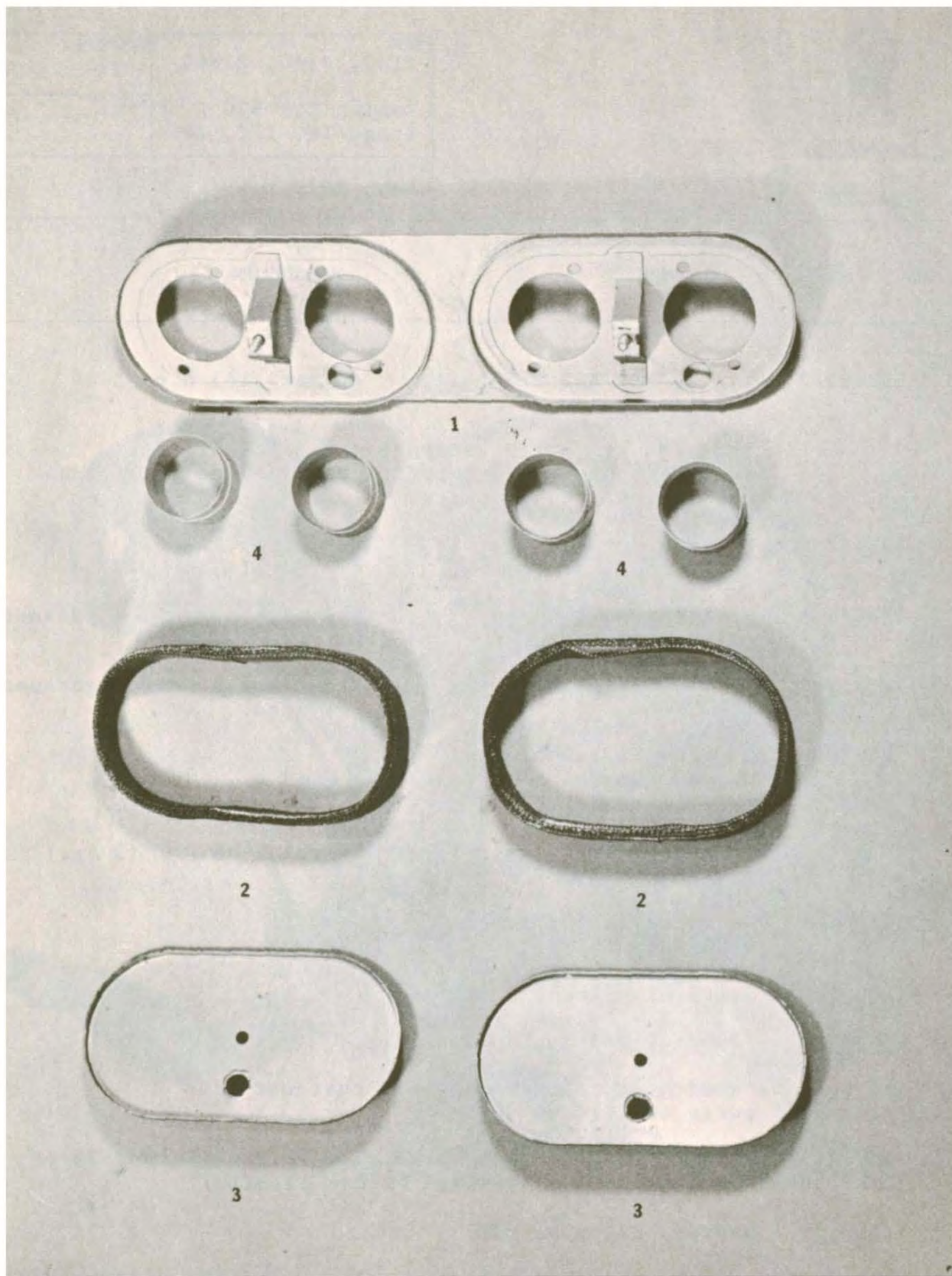




**VOLVO**

PROD P130, P140, P1800	SECTION 2A
Tuning Kit B20 Stage II, III, IV	NO. 7
DATE May, 1975	

Pos	Qty	Part No.	Description	Specification
1	552863-3		Tuning kit B20 Stage II, complete	Approx. 165 h.p. DIN
			Includes all parts as Stage I (552861-7), but some components are substituted with the following more "high output" parts.	
1	552842-7		Cylinder head Stage II	Ported, polished, c.c.'d 11:7:1 C.R.
4	552848-4		x Inlet valve 44mm	Stainless steel, lightened, polished
4	552849-2		x Exhaust valve 35mm	Stainless steel, lightened, polished
4	552828-6		x Guide sleeve, inlet valve, conical for less flow restriction.	
8	552841-9		Lightened valve tappet - Hard-chromed	Weight 2 oz. (3 oz.)
10	*942058-9		Hardened washer for cylinder head bolt	
4	*240571-0		Spark plug Bosch W280T13S	
			<u>Stage III</u> - Approx. 175 h.p. DIN	
			Not sold as a kit but referred to when customer adds individual parts as follows:	
			552464-0 Stage III & IV cylinder head plus re-jetting and 38 or 40mm chokes for Solex's. (See page 12 for details).	
			<u>Stage IV</u> - Approx, 185 h.p. DIN	
			Same as Stage III except 93mm forged pistons are added (2200 c.c.) 552451-7. (See page 12 for details).	





**VOLVO**

Competition Service

P130, 1800  
Tuning Kit (Cont.)

SECTION

2A

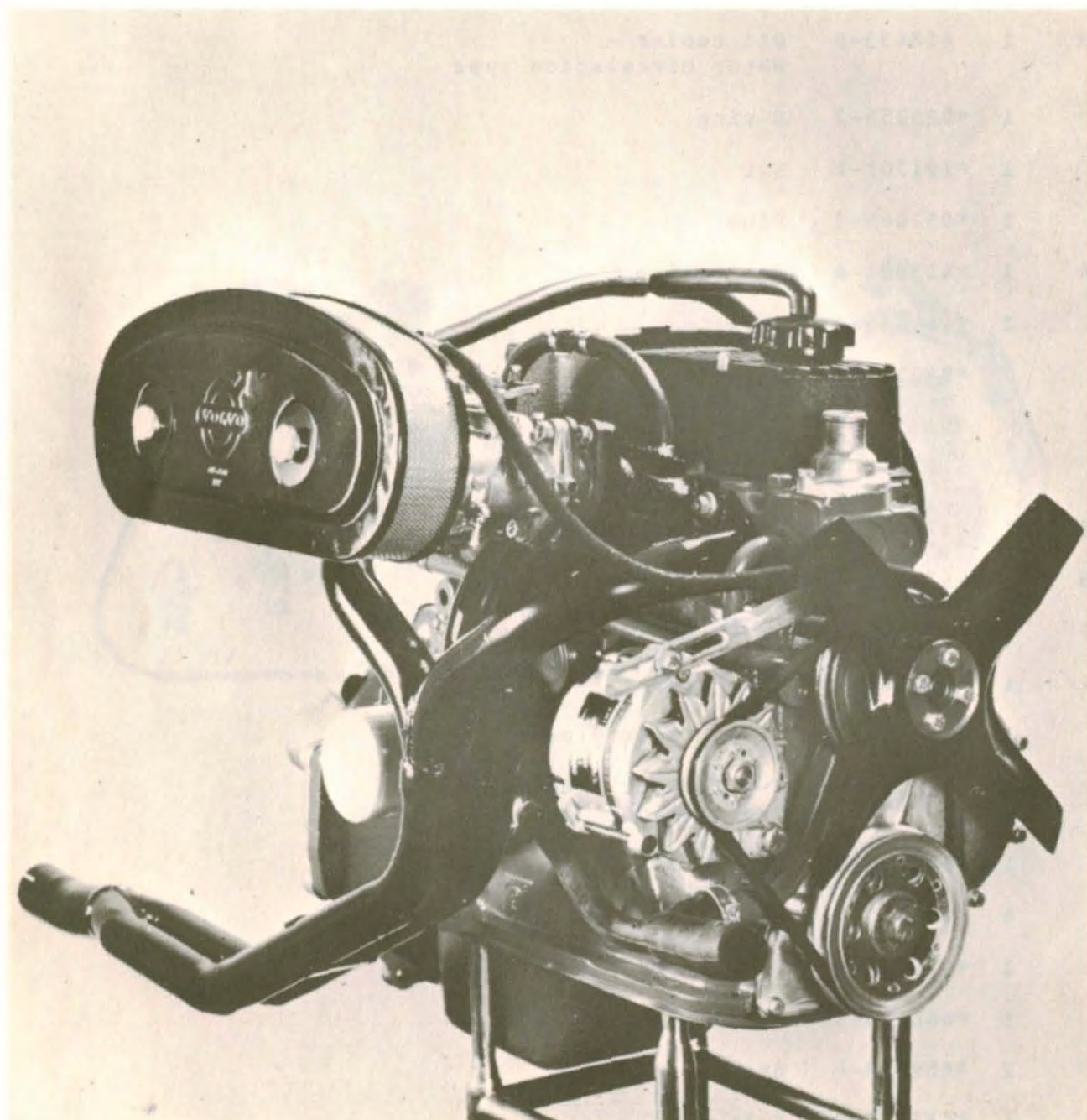
NO.

8

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

When using any of the "Stage" tuning kits in 130, 1800 or 544 models, smaller air cleaners must be fitted to provide proper inner fender clearance.

	1	*662006-6	Shaft	
	1	*191688-1	Steel washer for engine mount	
	2	*460003-7	Hose	
	1	*943706-2	Hose	
	4	*942928-3	Clamp	
	1	*942390-6	Hose	
	2	552551-4	T-union	
	1	*419446-0	T-union	
2	2	552632-2	Filter	
1	1	552631-4	Bottom plate for filter	
	1	552623-1	Rubber bushing for bottom plate	
3	2	552633-0	Top plate	
	2	*192461-2	Washer	
	2	*950352-5	Nut	
	8	*955892-5	Washer	
	1	*942461-5	Nipple	
4	4	552608-2	Air intake	





**VOLVO***Competition  
Service*

PROD	SECTION
P130, P140, P1800	2A
Complete Engines	NO.
	9
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

Complete engines are available to customers in four stages of tune. Each engine is balanced, blue-printed and assembled in our Competition Work Shop in Goteborg, Sweden. Engines are delivered with tuning kit fitted but without starter motor, alternator, flywheel housing, clutch, disc, fan and drive belt. Engines are only made upon order, so please allow 8 to 10 weeks for delivery.

552871-6	Stage I Engine	145 h.p. DIN
----------	----------------	--------------

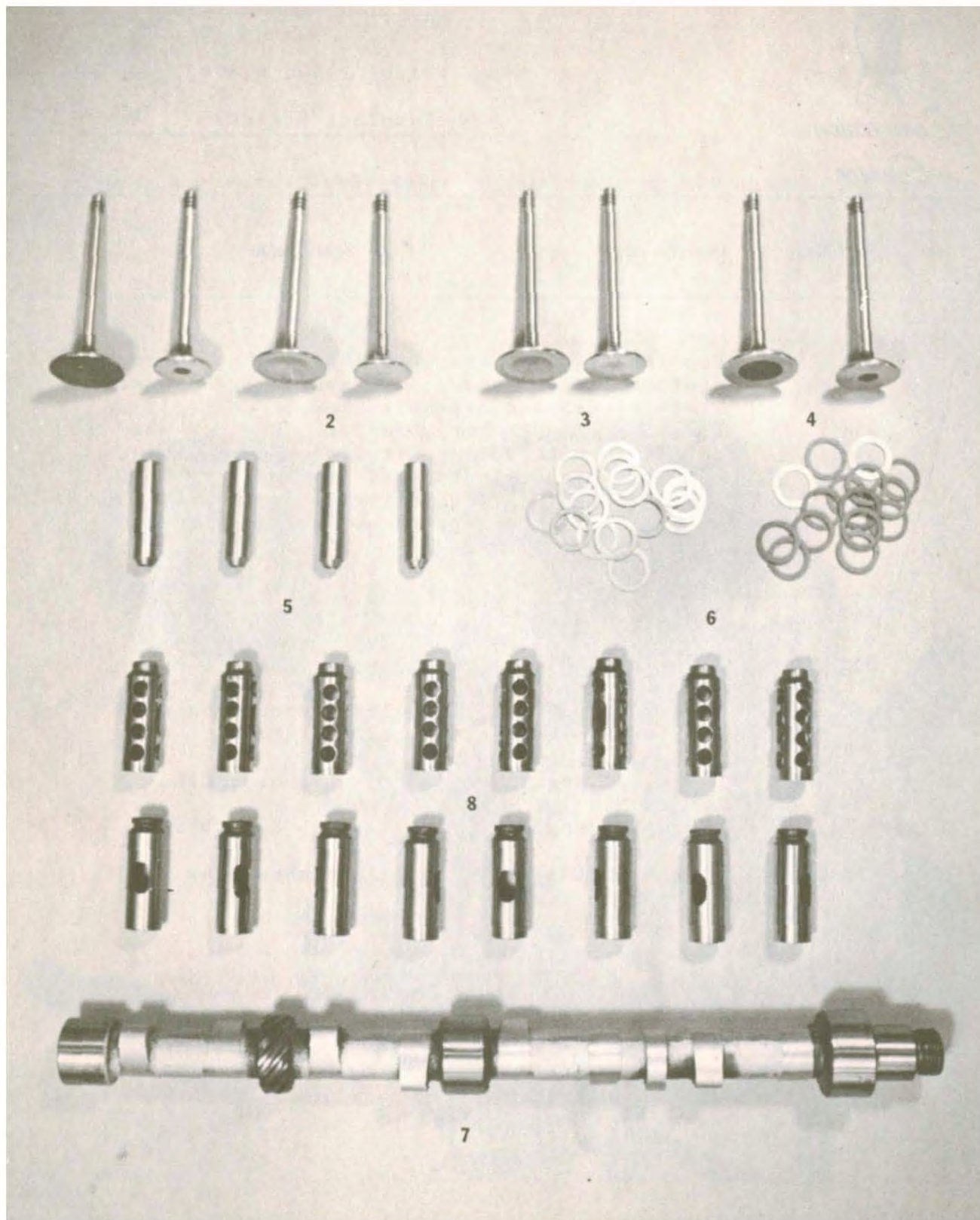
552872-4	Stage II Engine	165 h.p. DIN
----------	-----------------	--------------

Clutch 418930 and disc 418871 should be used with the above engines.

No part number	Stage III Engine	175 h.p. DIN
----------------	------------------	--------------

No part number	Stage IV Engine	185 h.p. DIN
----------------	-----------------	--------------

Clutch 552145 and disc 552146 should be used with above engines.



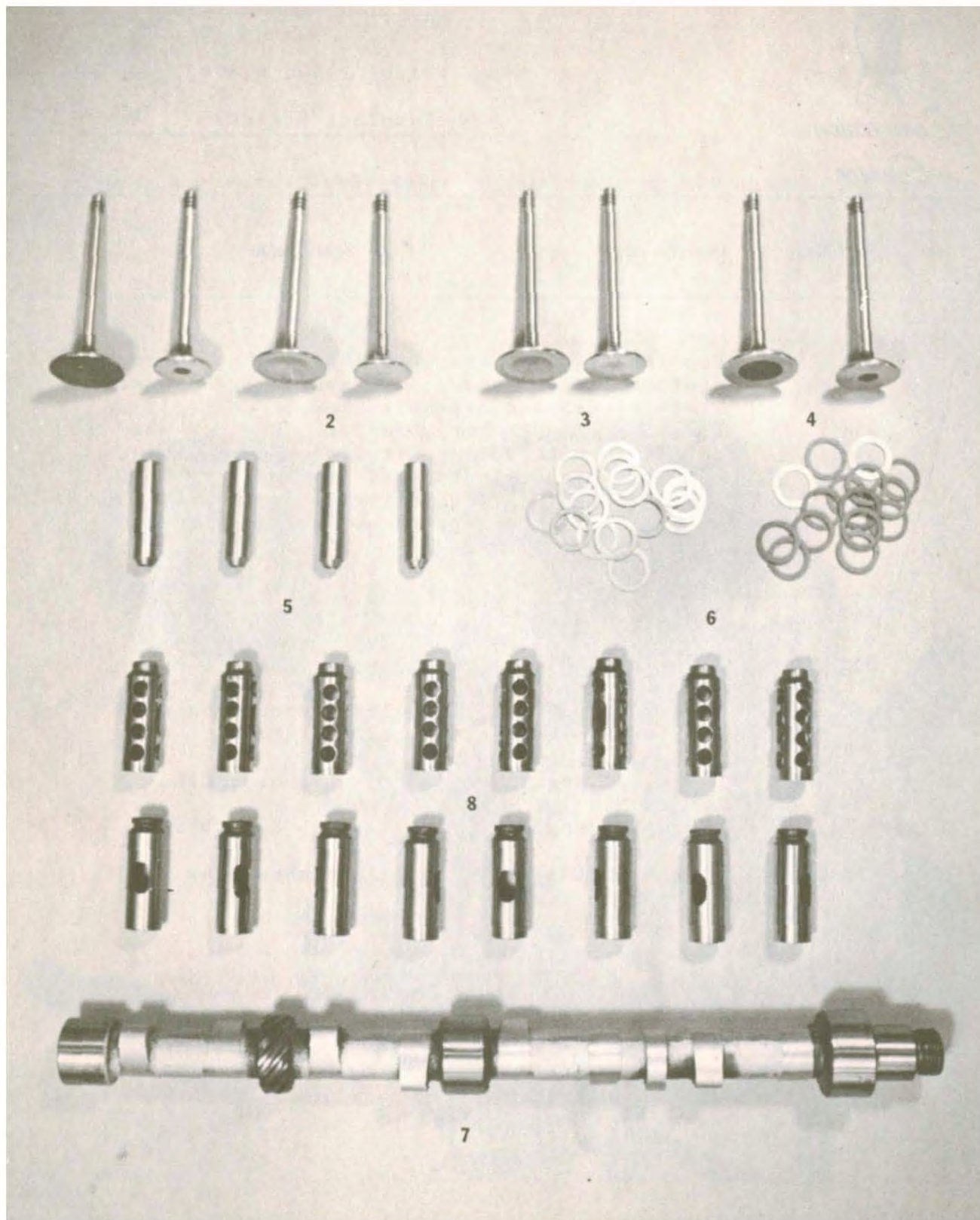


**VOLVO**

*Competition  
Service*

PROD	SECTION
P130, P1800, P140 B20 Valves, Camshafts, Lifters	2B
DATE	NO.
May, 1975	10

Pos	Qty	Part No.	Description	Specification
1	4	*419766-1	Stage I intake valve	44mm
1	4	*419735-1	Stage I exhaust valve	35mm
2	4	552848-4	Stage II intake valve	44mm, lightened, polished, stainless steel, stellite hardened.
2	4	552849-2	Stage II exhaust valve	35mm, same workmanship as intake
3	4	552823-7	Stage III intake valve	45mm, lightened, polished, stainless steel, stellite hardened.
3	4	552824-5	Stage III exhaust valve	38mm, same workmanship as intake.
4	4	552834-4	Intake valve	45mm, standard design and material.
4	4	552835-1	Exhaust valve	38mm, standard design and material.
5	4	552828-6	Intake valve guide	Specially tapered to reduce flow restriction.
6	1	552832-8	Shim set for B20 valve springs	Compressed length = block length of spring + 1mm clearance + max. valve lift.
	1	*419258	Camshaft D	Lift .410 Duration 280°
	1	552460-8	Hard-chrome Camshaft F	Lift .425 Duration 300°
7	1	552461-6	Hard-chrome Camshaft R	Lift .450 Duration 287°
	1	552465-7	Hard-chrome Full Race Cam	
	1	824706-6	Hard-chrome Camshaft G	Lift .457 Duration 308°

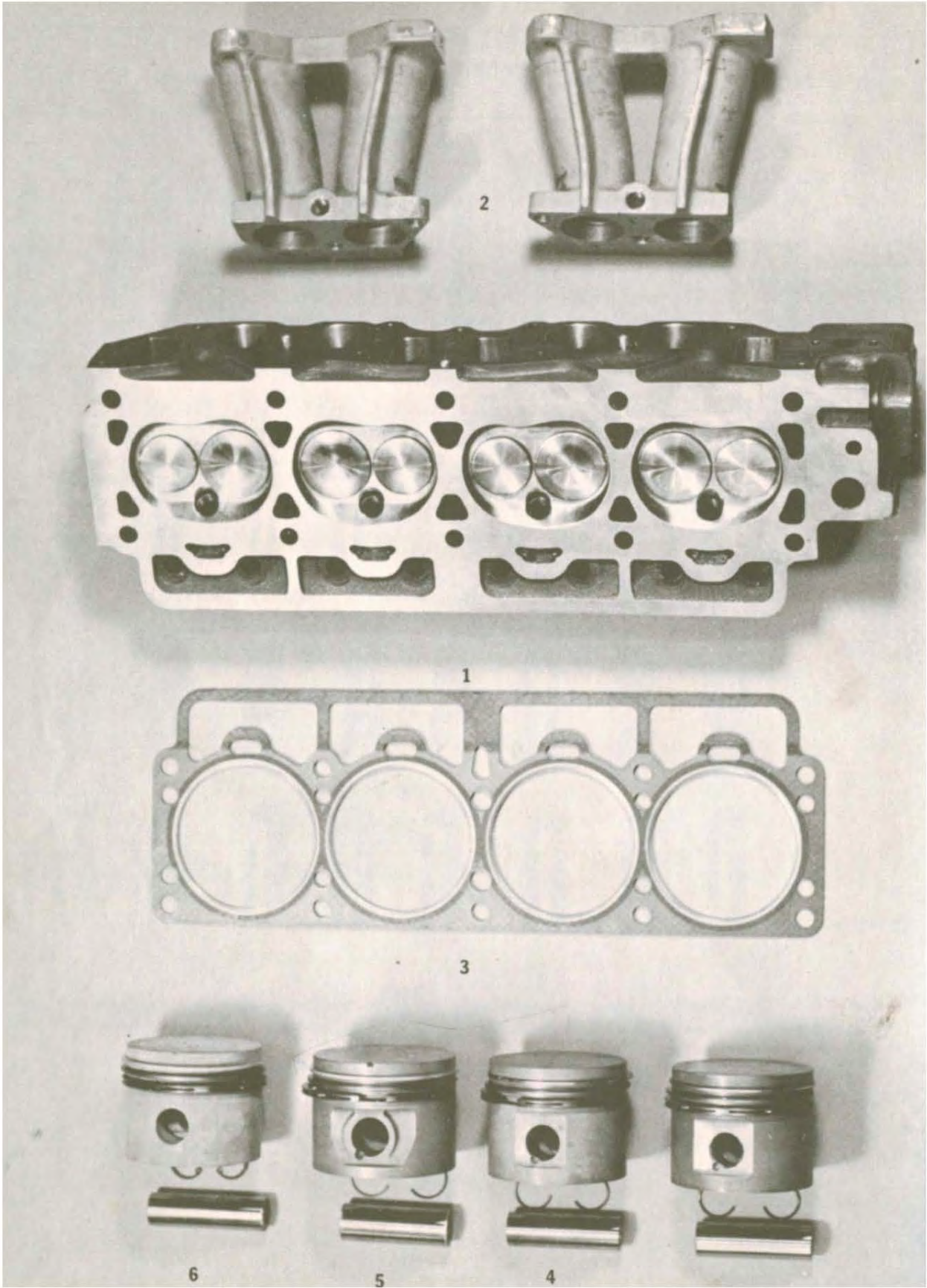




<b>VOLVO</b> Competition Service	Valves, Camshafts, Lifters (Cont.)	SECTION 2B	NO. 11
-------------------------------------	---------------------------------------	---------------	-----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

8	8	552841-9	Lightened valve lifters Special hardened	Weight 2 oz. (3 oz.)
	8	552466-5	Valve lifter - standard weight - Special hardened	



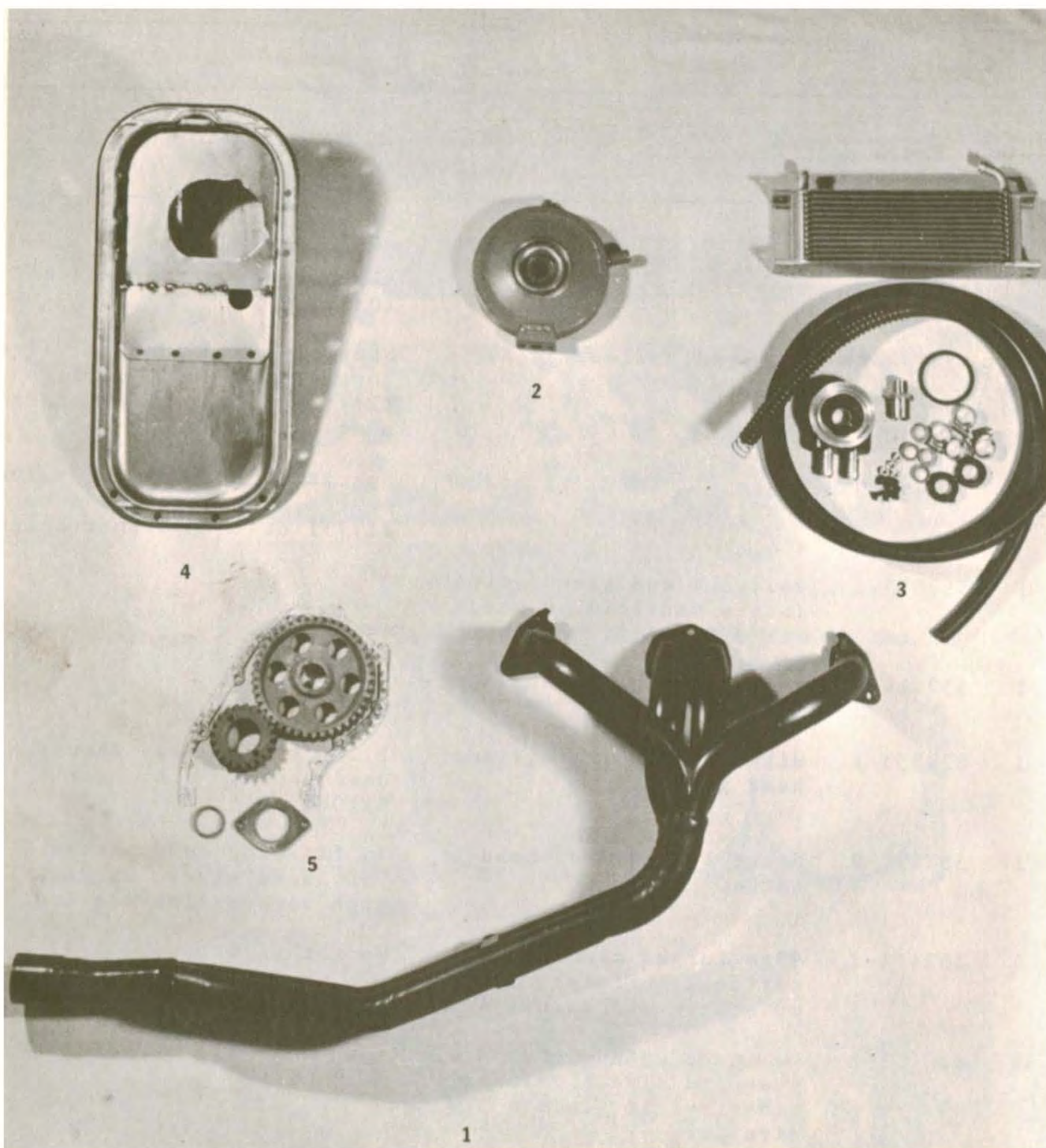
**VOLVO**

*Competition  
Service*

PROD	SECTION
B20 Cylinder Heads, Manifolds, Pistons	2B
DATE	NO. 12
May, 1975	

Pos	Qty	Part No.	Description	Specification
	1	419882-6	Stage I cylinder head	44mm intake, 35mm exhaust 10:5:1 C.R.
	1	552842-7	Stage II cylinder head	Special 44mm and 35mm valves, ported, polished, cc'd to 11:7:1 C.R. or to customer specs.
1	1	552464-0	Stage III & IV cylinder head	Special 45mm and 38mm valves ported, polished, cc'd to 11:7:1 or to customer specs.
	1	552613-2	Polished and ground front intake manifold to match Stage II & III head ports	
2	1	552614-0	Polished rear intake mani- fold as above	
	1	824855-1	High compression cylinder head gasket	1.2mm thickness. Should be used for any C.R. over 11:0:1.
3	1	552836-9	Stage IV cylinder head gasket	To fit 2200 cc capacity 93mm bore size. Extreme high compression sealing.
4	4	552451-7	93mm Forged aluminum piston. Includes rings, wrist pin and circlips	Weight 25 oz. (27 1/2)
5	4	552453-3	Forged aluminum piston standard size, includes rings, wrist pin and circlips	Weight 23 1/2 oz. (25 oz)
6	4	552454-1	Forged aluminum piston. Includes rings, wrist pin and circlips	.030 oversize weight 24 oz. (25 7/8 oz)

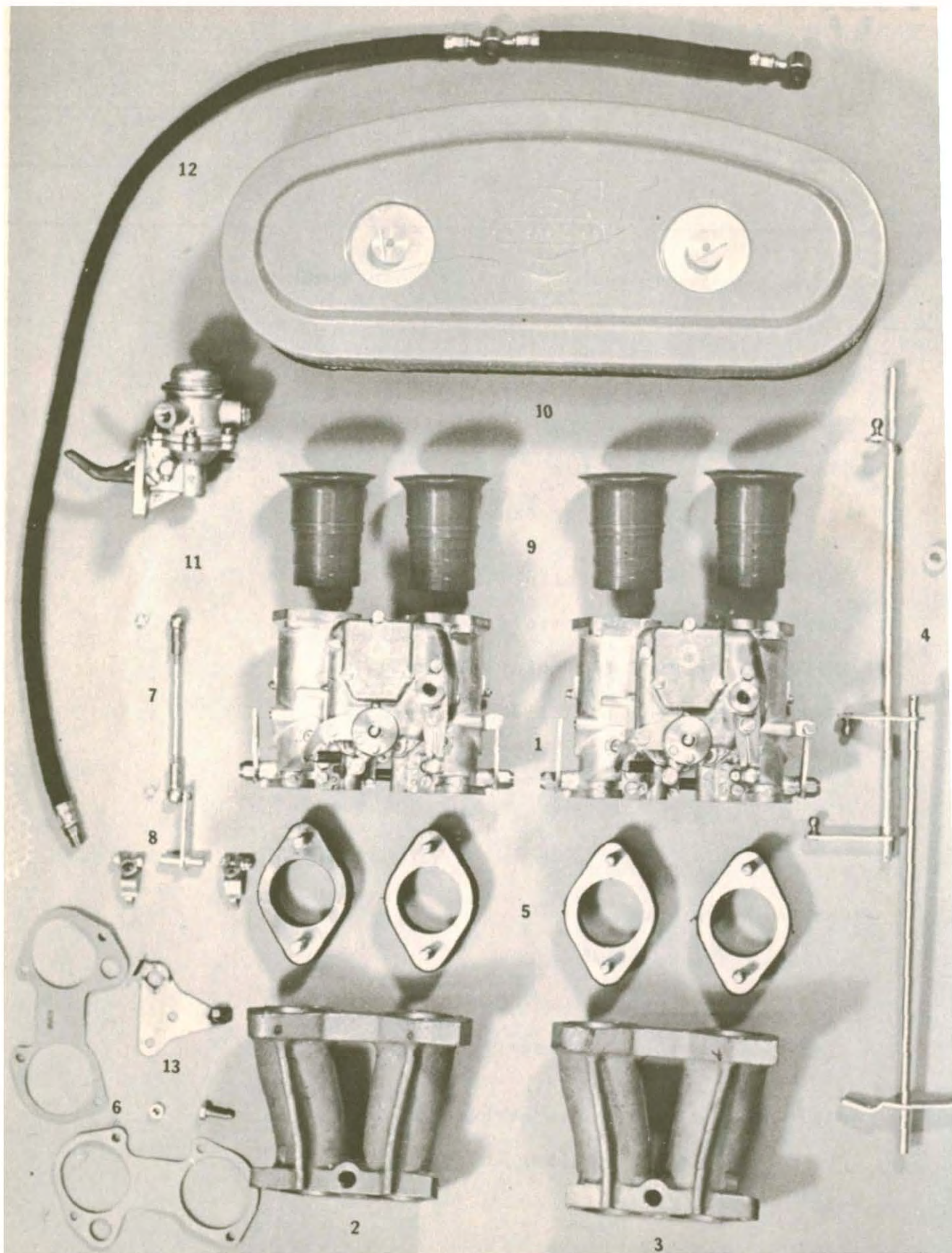






<b>VOLVO</b>		SECTION	NO.
Competition Service	Engine Parts	2B	13

Pos	Qty	Part No.	Description	Specification
	4	552452-5	Piston ring kit for 552451-7	
	4	552455-8	Piston ring kit for 552453	
	4	552456-6	Piston ring kit for 552454	
	4	552457-4	Wrist pin for all of above pistons	
	8	552458-2	Circlip for all of above pistons	
	1	419392-6	Lightened steel flywheel	Weight 18 lbs. (21) B18/B20 up to and including 1973 (6 bolt).
	1	552833-6	Lightened steel flywheel	Weight 17 lbs. (21) B20 1974 and on (8 bolt).
1	1	419381-9	Tuned exhaust manifold	Four branches into two with a final 2 inch collector. Designed for increased torque in the 3600 to 4800 R.P.M. range. Will not fit B18/B20 engines with one piece intake/exhaust manifold nor 74-75 F.I. cars with exhaust re-circulation. Some modification needed on all F.I. engines.
2	1	418433-9	Oil cooler - engine coolant heat transfer.	
3	1	552900-3	Oil cooler - Air cooled. Hoses and adapter included.	
4	1	552847-6	Baffled oil sump	Deep sump covered with baffles to eliminate oil being thrown up into crankshaft and causing aeration.
5	1	875375-8	Steel timing gears	Should be used in all engines that frequently see 6000 R.P.M.'s plus.

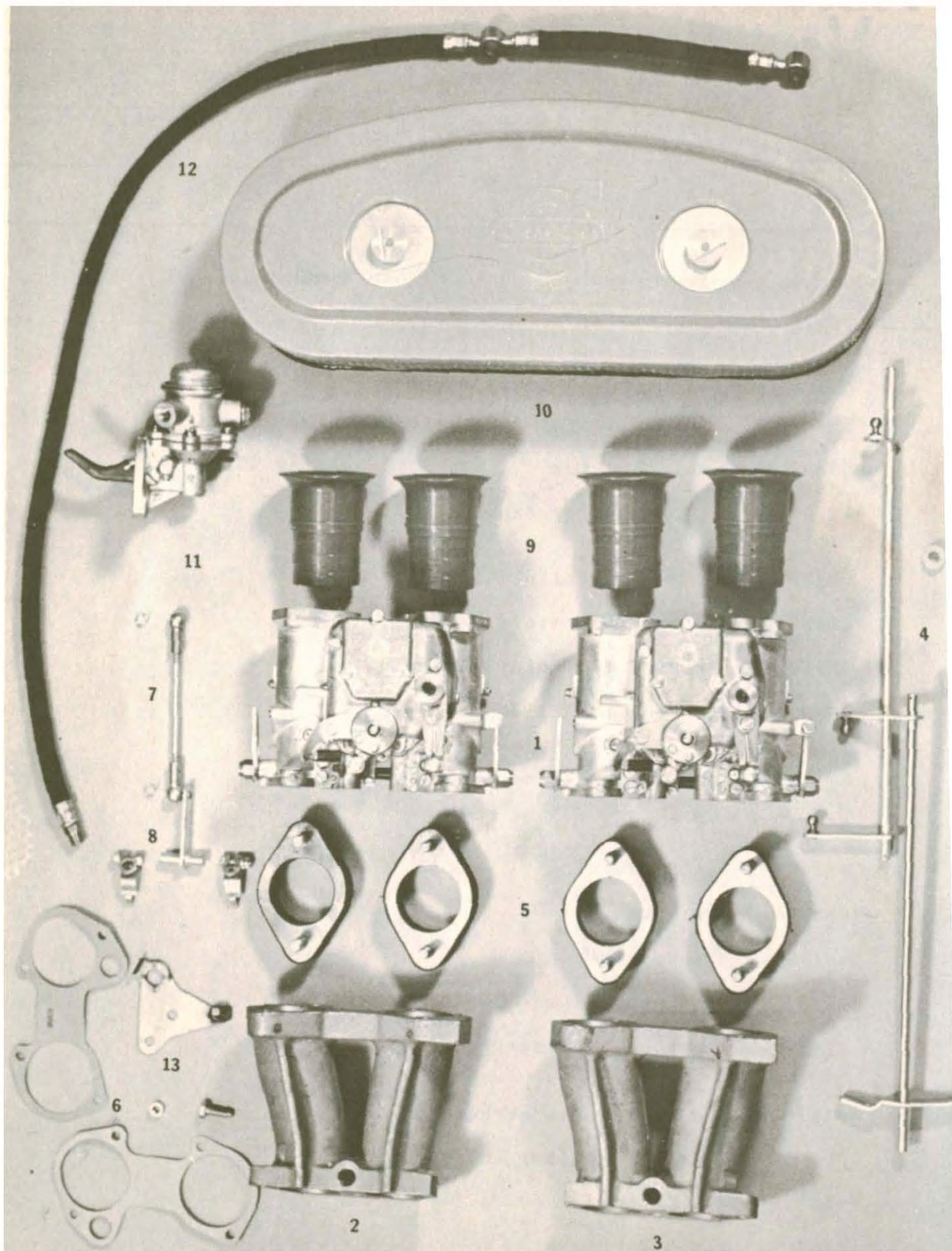




**VOLVO**

PROD	SECTION
B20	2C
Solex 45DDH Carburetor Kit	NO. 14
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
CARBURETOR KIT INCL. LINKAGE FOR B20				
	1	552610-8	Carburetor kit complete	
1	2	552600-9	x Carburetor	Solex 45DDH twin choke
	1	*419764-6	x Gasket for exhaust manifold	
2	1	419883-4	x Inlet manifold, front	
3	1	419884-2	x Inlet manifold, rear	
	2	422635-3	x Plug for inlet manifold	
	1	*952075-0	x Plug for inlet manifold	
4	1	684899-8	x Upper shaft, complete, for throttle control	
	2	*955512-9	x Screw	
	8	953461-1	x Stud bolt	
	8	*955826-3	x Nut	
	16	*941907-8	x Washer	
	8	*955847-9	x Nut	
5	4	824643-1	x Rubber flange for carburetor	
6	8	819769-1	x Gasket for carburetor	
7	1	686057-1	x Intermediary shaft	
8	1	*943936-5	x Control rod	
9	4	824708-2	x Air intake	





**VOLVO**

Solex Carb. Kit cont.

Competition Service

SECTION

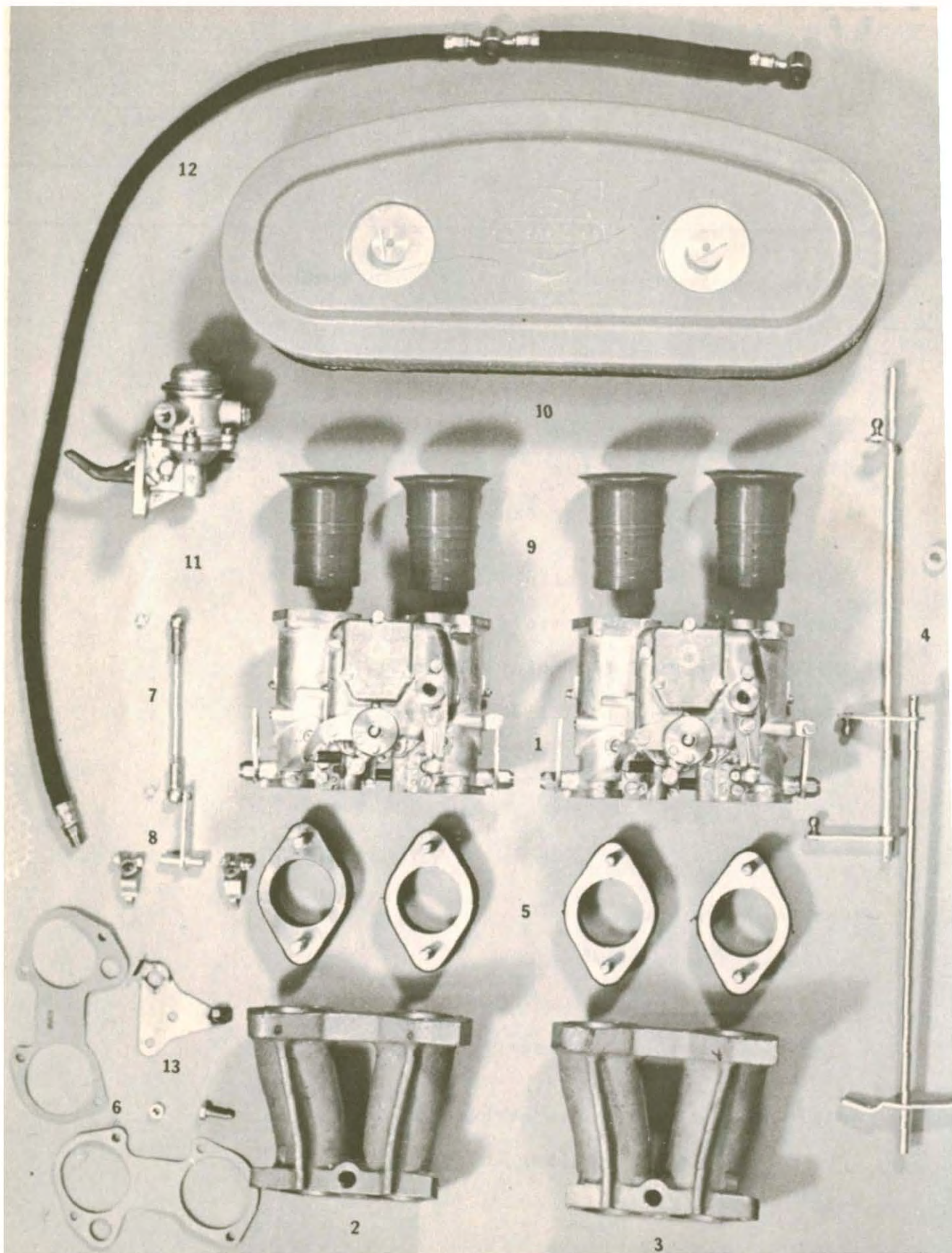
2C

NO.

15

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

10	1	684036-7	x Air cleaner complete	
	2	419906-3	x Gasket	
	8	953032-0	x Stud bolt	
	8	*946035-3	x Nut	
	1	*668558-0	x Lever, front	
	1	*668559-8	x Lever, rear	
	1	*959088-6	x Ball socket	
	1	*942837-6	x Ball socket	
	1	*955780-2	x Nut	
	1	*942836-8	x Nut	
	1	460047-4	x Stay for air cleaner	
	1	*940097-9	x Washer	
	2	*960142-8	x Washer	
	1	*955536-8	x Screw	
	1	*950354-1	x Nut	
11	1	831092-2	x Fuel pump	
	1	*946600-4	x Nipple for fuel pump	
12	1	825856-8	x Fuel hose	
	2	825857-6	x Banjo screw for fuel hose	
	4	*957173-8	x Gasket for banjo screw	
	2	825858-4	x Strainer for fuel hose	
13	1	1206551-2	x Bracket for throttle control	
	1	1206549-6	x Upper shaft for throttle control	
	1	*955273-8	x Bolt	
	1	*955781-0	x Nut	

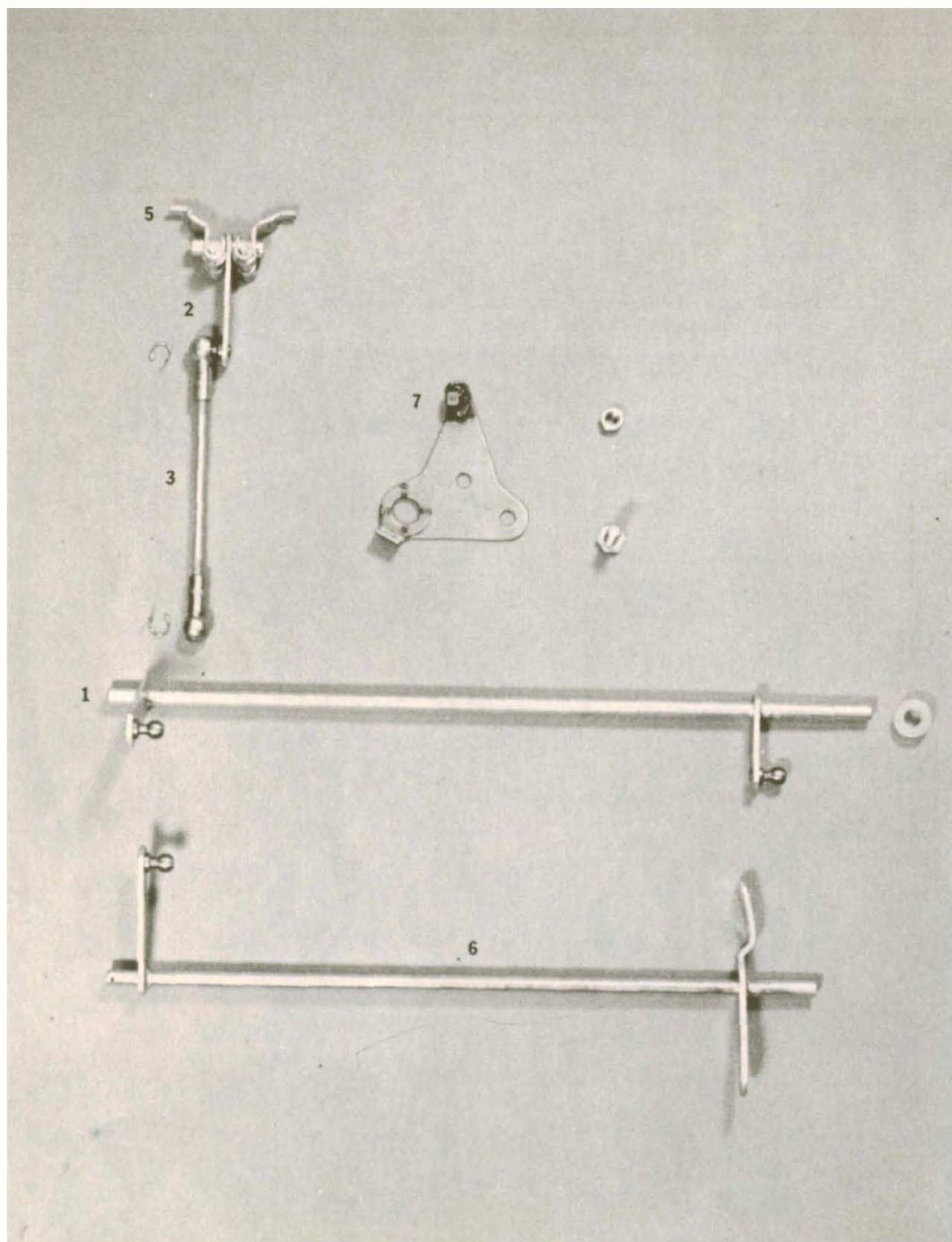


<b>VOLVO</b> Competition Service		SECTION 2C	NO. 16
-------------------------------------	--	---------------	-----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

	1	*955273-8	x Bolt	
	1	*955781-0	x Nut	
	1	552551-4	x T-union for crankcase ventilation	
	1	*666143-3	x Bushing	
	0,3m	*943706-2	x Tube	
	4	*942928-3	x Clamp	
	1	*419446-0	x T-union	
	2	*959093-6	x Brace	





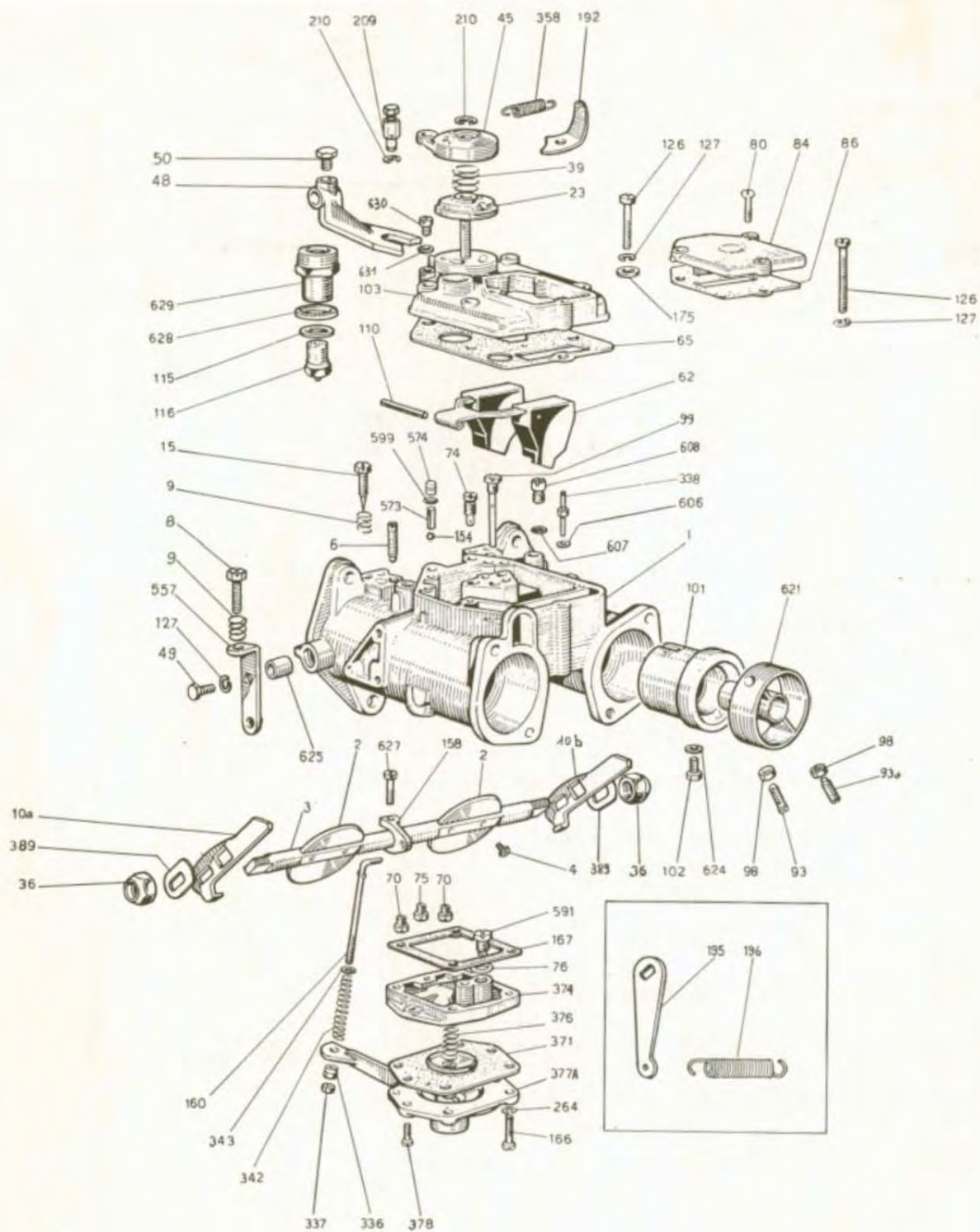


**VOLVO**

*Competition  
Service*

PROD	SECTION
Linkage Kit for Solex Carburetor	2C
DATE	NO.
May, 1975	17

Pos	Qty	Part No.	Description	Specification
	1	552611-6	Linkage kit complete	
1	1	684899-8	x Upper shaft, complete for throttle control (For linkage type pedal.)	
	2	*955512-9	x Screw	
2	1	686057-1	x Intermediary shaft	
3	1	*943936-5	x Control rod	
4	1	*688558-0	x Lever, front	
5	1	*668559-8	x Lever, rear	
	1	*959088-6	x Ball socket	
	1	*942837-6	x Ball socket	
	1	*955780-2	x Nut	
	1	*942836-8	x Nut	
6	1	1206549-6	x Upper shaft for throttle control (For cable type pedal.)	
7	1	1206551-2	x Bracket for throttle control	
	1	*955273-8	x Bolt	
	1	*955781-0	x Nut	
	1	*666143-3	x Bushing	
	2	*959093-6	x Brace	



Carburettor SOLEX 45 DDH (for B20 engine) Part No 552600-9

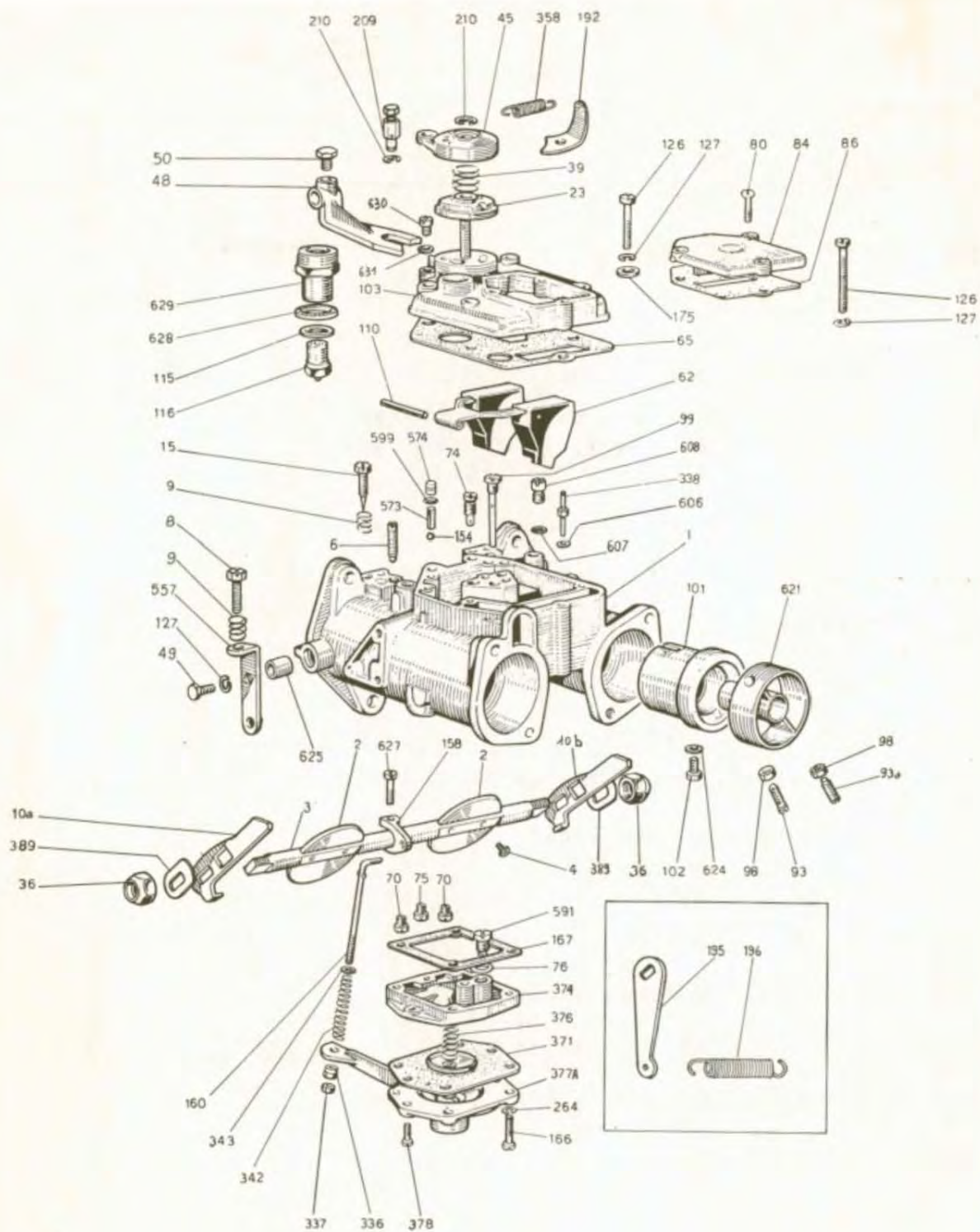
**VOLVO**

*Competition  
Service*

PROD	SECTION
Solex Parts	2C
	NO.
	18
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
2	2	1155000-1	Throttle butterfly 12°	
3	2	1155001-9	Throttle spindle with level	
4	4	1155002-7	Throttle fixing screw	
6	2	1155004-3	Throttle stop screw	
8	1	1155005-0	Slow running adjustment screw	
9	3	1155006-8	Screw spring	
10a	1	1155008-4	Throttle control lever	
10b	1	1155009-2	Throttle control lever	
15	2	1155012-6	Volume control screw	
23	1	1155014-2	Starter valve	
36	2	1155015-9	Throttle lever nut for pos 10, 10a	
39	1	1155016-7	Starter valve spring	
45	1	1155018-3	Starter cover	
48	1	1155019-1	Starter cable clamp	
49	1	1155020-9	Bracket fixing screw for pos 557	
50	1	1155021-7	Cable fixing screw	
62	1	1155022-5	Float assembly complete	
65	1	1155023-3	Floatchamber gasket	
70	2	1155024-1	Main jet 185	
75	1	1155026-6	Starter petrol jet 125	
76	1	1155027-4	O-ring for pos 591	



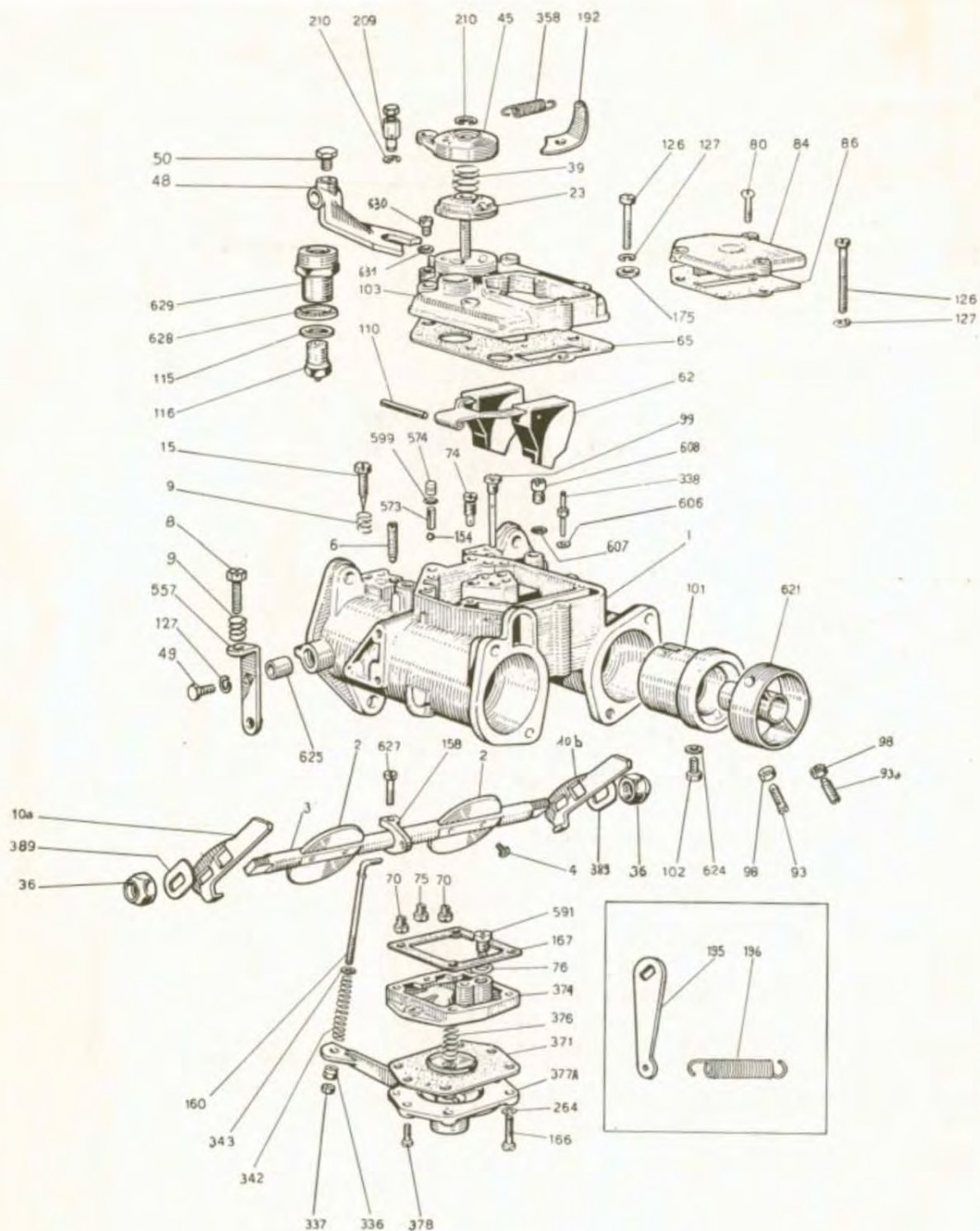


Carburettor SOLEX 45 DDH (for B20 engine) Part No 552600-9

<b>VOLVO</b> Competition Service		SECTION 2C	NO. 19
-------------------------------------	--	---------------	-----------

Pos	Qty	Part No.	Description	Specification
80	1	1155028-2	Air cap fixing screw	
84	1	1155030-8	Emulsion cover cap	
86	1	1155031-6	Cover plate gasket	
93	2	1155032-4	Central diffuser screw	
93a	2	1155034-0	Tulip fixing screw	
98	4	1155036-5	Nut for screw	
99	2	1155038-1	Emulsion tube carrier assembly 175	
101	2	1155040-7	Choke tube 36	
102	2	1155042-3	Choke tube screw	
103	1	1155044-9	Float chamber cover assembly	
110	1	1155046-4	Float toggle spindle	
115	1	1155047-2	Needle valve gasket	
116	1	1155049-8	Needle valve	
126	4	1155050-6	Floatchamber assembly screw, short	
126	1	1155052-2	Floatchamber assembly screw, long	
154	2	1155054-8	Ball	
158	1	1155055-5	Pump intermediate actuating lever	
160	1	1155056-3	Pump control rod	
166	4	1155057-1	Pump assembly fixing screw	
167	1	1155059-7	Pump body gasket	
192	1	1155060-5	Yoke	
195	1	1155061-3	Spring lever	
196	1	1155062-1	Throttle spindle return spring	
209	1	1155064-7	Roller bracket with screw assembly	
210	2	1155065-4	Circlip	





Carburettor SOLEX 45 DDH (for B20 engine) Part No 552600-9



**VOLVO**

Competition Service

Solex Parts

SECTION

2C

NO.

20

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

336	1	1155066-2	Pump control rod adjustment nut	
-----	---	-----------	---------------------------------	--

337	1	1155068-8	Nut	
-----	---	-----------	-----	--

338	2	1155070-4	Pump injector assembly	
-----	---	-----------	------------------------	--

342	1	1155071-2	Pump control, rod spring	
-----	---	-----------	--------------------------	--

343	1	1155073-8	Control rod retaining washer	
-----	---	-----------	------------------------------	--

358	1	1155075-3	Starter return spring	
-----	---	-----------	-----------------------	--

371	1	1155077-9	Diaphragm complete	
-----	---	-----------	--------------------	--

374	1	1155078-7	Diaphragm pump body	
-----	---	-----------	---------------------	--

376	1	1155079-5	Spring	
-----	---	-----------	--------	--

377a	1	1155080-3	Pump cover complete	
------	---	-----------	---------------------	--

378	2	1155081-1	Pump cover fixing screw	
-----	---	-----------	-------------------------	--

389	2	1155083-7	Stop washer	
-----	---	-----------	-------------	--

557	1	1155084-5	Bracket	
-----	---	-----------	---------	--

573	1	1155085-2	Ballast	
-----	---	-----------	---------	--

574	2	1155086-0	Grub with sealing ring	
-----	---	-----------	------------------------	--

591	1	1155087-8	Valve complete	
-----	---	-----------	----------------	--

599	2	1155088-6	Sealing ring for pos 574	
-----	---	-----------	--------------------------	--

606	2	1155089-4	Injector washer	
-----	---	-----------	-----------------	--

607	2	1155090-2	Washer for pos 338	
-----	---	-----------	--------------------	--

608	2	1155091-0	Grub for pos 338	
-----	---	-----------	------------------	--

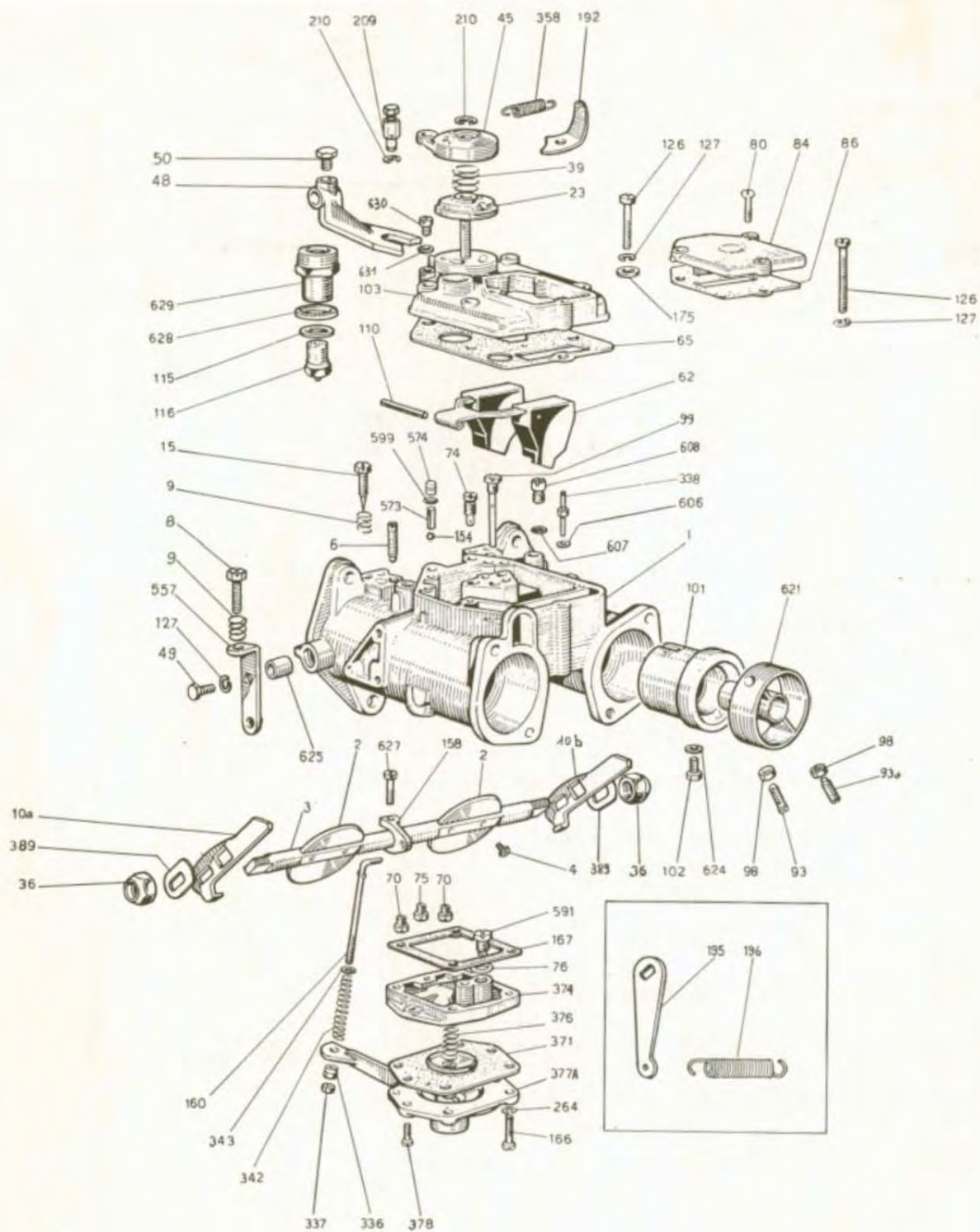
621	2	1155092-8	Central diffusor	
-----	---	-----------	------------------	--

624	2	1155093-6	Washer for pos 102	
-----	---	-----------	--------------------	--

625	2	1155094-4	Bush (Teflon)	
-----	---	-----------	---------------	--

627	1	1155095-1	Screw for pump lever	
-----	---	-----------	----------------------	--

628	See next page		Washer for pos 629	
-----	---------------	--	--------------------	--



Carburettor SOLEX 45 DDH (for B20 engine) Part No 552600-9

<b>VOLVO</b> Competition Service		Solex Parts 2	NO. 21
-------------------------------------	--	------------------	-----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

	1	1155096-9	thickness 0.5mm	
	1	1155097-7	thickness 0.8mm	
	1	1155098-5	thickness 1.0mm	
	1	1155099-3	thickness 1.2mm	
	1	1155100-9	thickness 1.5mm	
629	1	1155101-7	Seat	
630	1	1155102-5	Plug for vacuum intake	
631	1	1155103-3	Gasket for pos 630	

For the Solex 45 DDH it may sometime be suitable to replace the idle nozzle with a larger one, particularly when driving in cold weather.

Part No.	Nozzle size
----------	-------------

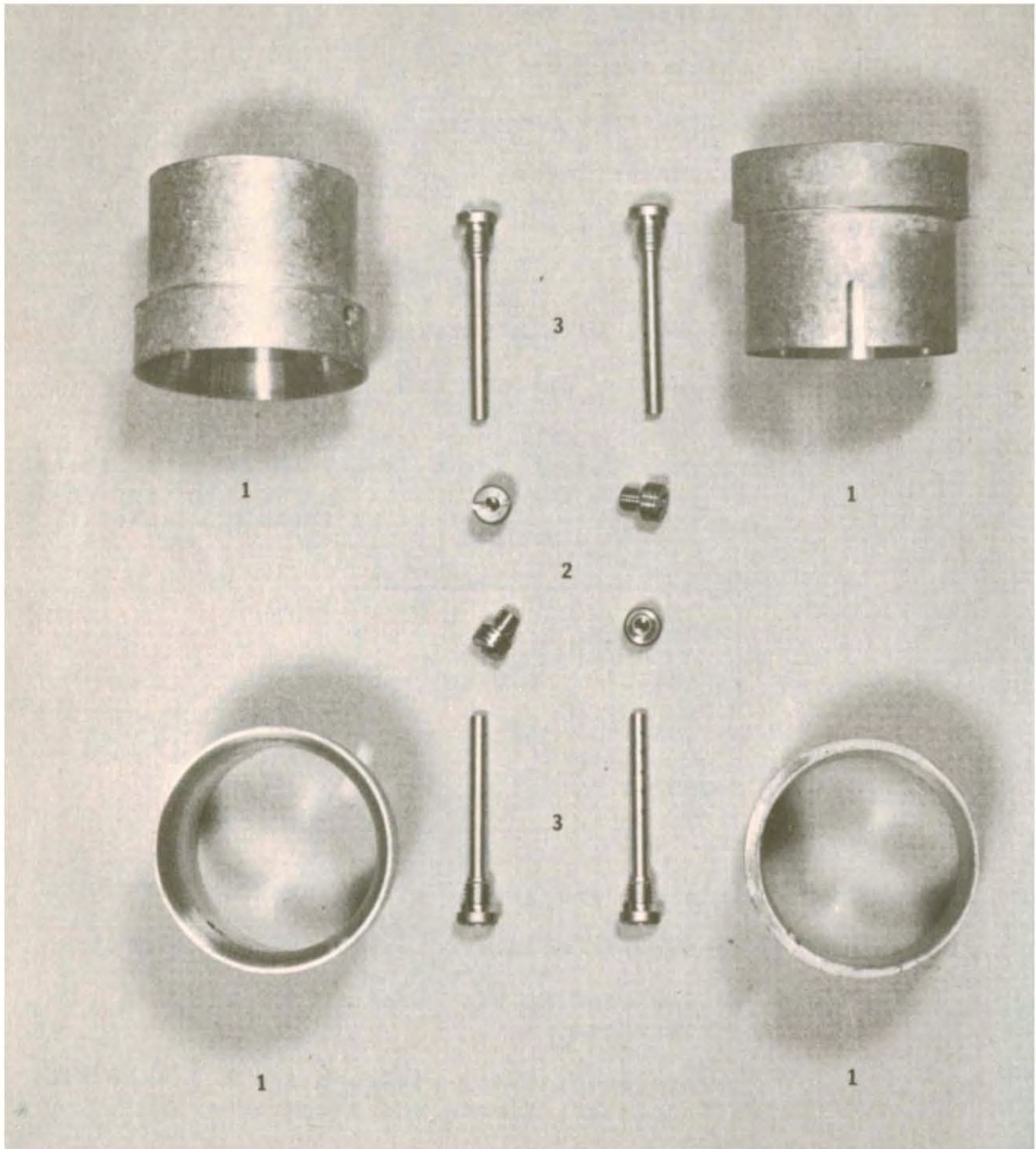
552604-1	57,5
552605-8	60,0
552606-6	62,5
552607-4	65,0

Reconditioning and gasket kits (Solex 45 DDH)

1	552601-7	Gasket kit complete for two carburetors
1	552602-5	Reconditioning kit complete for two carburetors

The reconditioning kit contains a gasket kit, all nozzles, floats and diaphragms.





<b>VOLVO</b> Competition Service		SECTION 2C	NO. 22
-------------------------------------	--	---------------	-----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

Some of our customers may wish to experiment with other parts for the Solex carburetors. Below is a list of the 3 versions we offer.

1	2	1155041-5	Choke tube 38 mm	
2	2	1155025-8	Main jet 190	
3	2	1155039-9	Emulsion tube carrier assembly 155	
	1	1155115-7	Jet set	
1	4	552609-0	x Choke tube 40 mm	
2	4	1155104-1	x Main jet 150	
3	4	1155105-8	x Emulsion tube carrier assembly 120	
	1	1155120-7	Jet set	
1	4	1155121-5	x Choke tube 43 mm	
2	4	1155119-9	x Main jet 155	
3	4	1155105-8	x Emulsion tube carrier assembly 120	
	4	1155107-4	Main jet 200	





# **SECTION 3**

**Electrical**

**3**

**Lighting  
Ignition  
Instruments**



1



5



1



2



4



2



3



3

**VOLVO***Competition  
Service*

PROD	SECTION
Lighting Equipment	3
	NO. 1
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
1	1	552020-0	Foglight, Hella	
			160mm without bulb	
	1	552021-8	Spotlight, Hella	
			160mm without bulb	
	1	552022-6	Foglight, Hella	
			170mm without bulb	
2	1	552023-4	Spotlight, Hella	
			170mm without bulb	
	1	552024-2	Foglight, Hella	
			192mm without bulb	
	1	552025-9	Spotlight, Hella	
			192mm without bulb	
3	1	552026-7	Spotlight BOSCH 180	
			KNICK without bulb	
			(diameter 180mm)	
	1	552027-5	Foglight BOSCH 180	
			KNICK without bulb	
			(diameter 180)	
4	1	552028-3	Protective lamp cover	
			with Volvo emblem 160	
			to 170mm	
5	1	552029-1	Protective lamp cover	
			with Volvo emblem 140	
			to 160mm	
	1	*277751-4	Bulb halogen 55W	





1



5



1



2



4



2



3



3

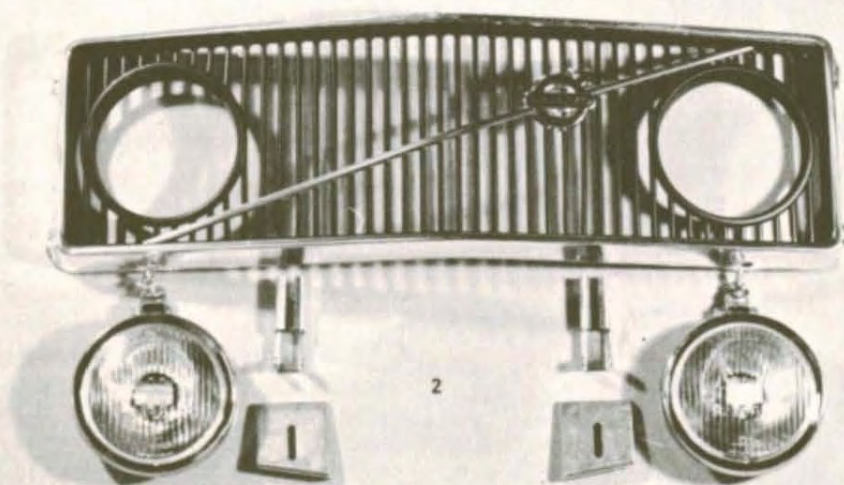
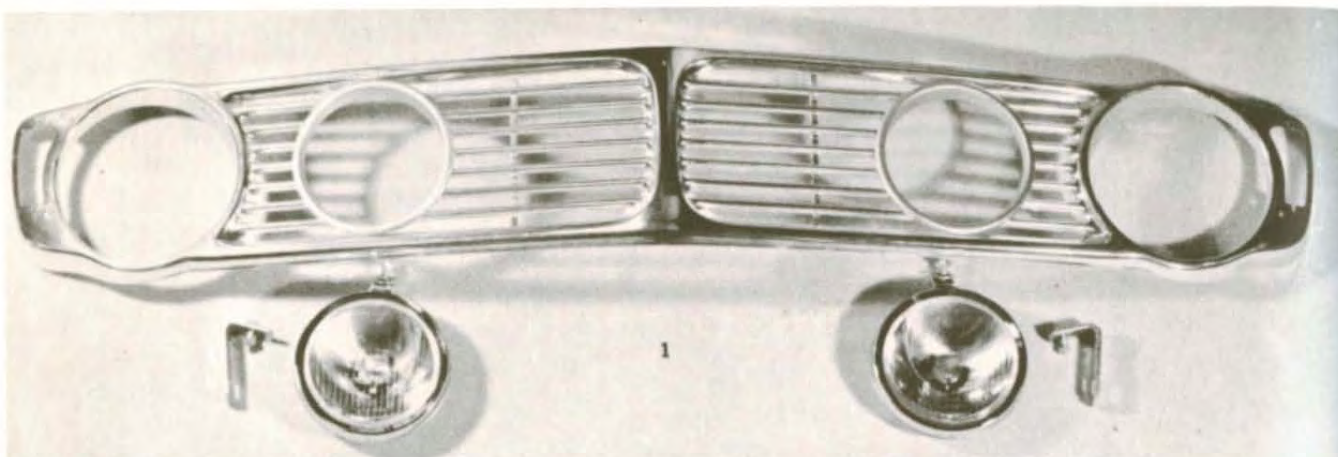
<b>VOLVO</b> Competition Service		Lighting	SECTION 3	NO. 2
-------------------------------------	--	----------	--------------	----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

1		552030-9	Bulb Halogen 100W	
1		552031-7	Adjusting stay for extra lights	
1		552032-5	Wiring kit for all auxiliary lights. Includes harness, relay, terminals and instruc- tions.	

Competition Lighting is not legal for road use in all states. Check the law before highway use.







**VOLVO**

Competition Service

Lighting

SECTION

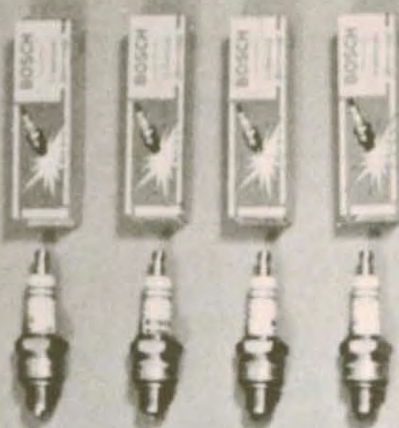
3

NO.

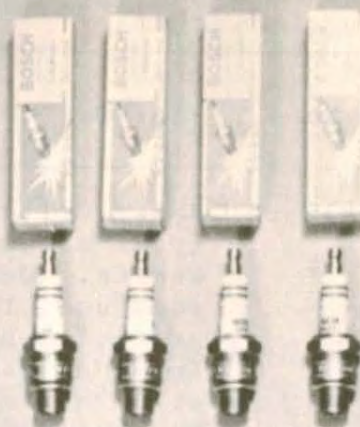
3

Pos	Qty	Part No.	Description	Specification
1	1	552912-8	Rally Grill Fog Light Kit (year model 67-70) 140 series. Designed for off- road use, the lamps are protected by the grill. Includes lamps, bulbs, grill and mounting brackets.	
	1	552913-6	Rally Grill Spot Light Kit (year model 67-70) 140 series, same as above	
2	1	552914-4	Rally Grill Fog Light Kit (year model 71-72) 140 series, same as above	
	1	552915-1	Rally Grill Spot Light Kit (year model 71-72) 140 series, same as above	

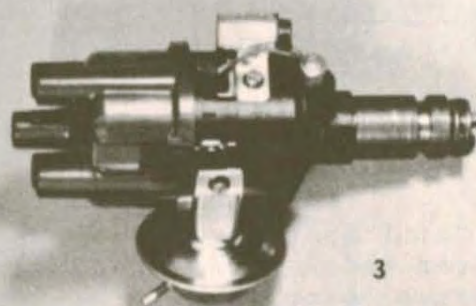
Competition Lighting is not legal for road  
use in all states. Check the law before  
highway use.



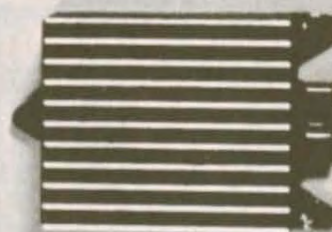
2



1



3



4





**VOLVO**

*Competition  
Service*

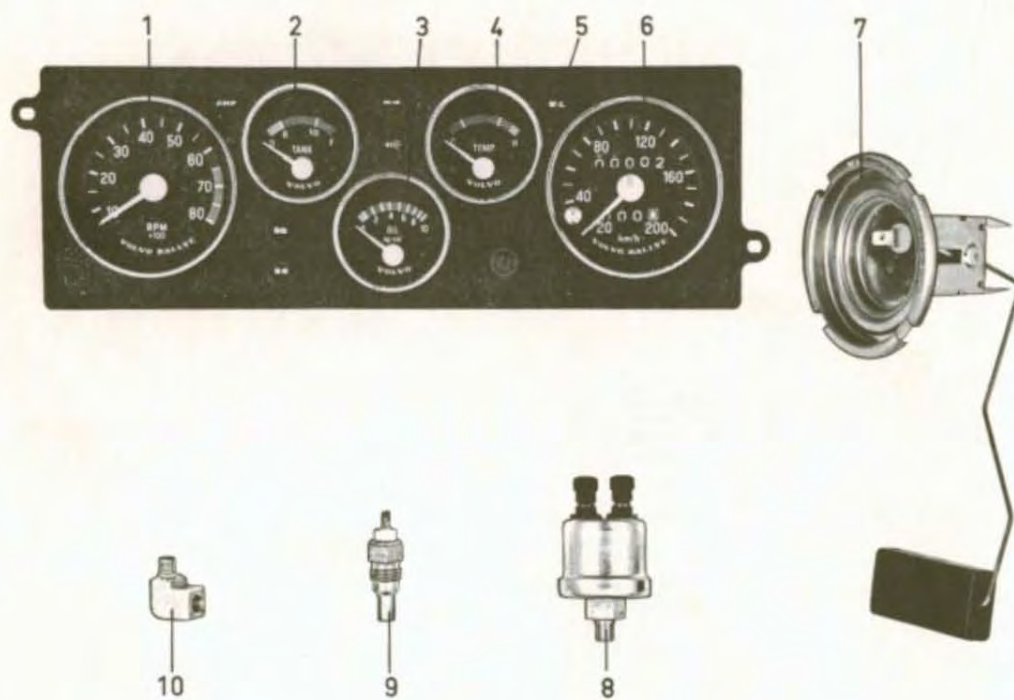
PROD	SECTION
B18, B20, B30 Ignition	3
	NO. 4
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
1	4	*238624-1	Bosch spark plug W240T1	
	4	*240571-0	Bosch spark plug W280T13S for Stage II	
2	4	240527-2	Bosch spark plug W290R16S for Stage III & IV	
3	1	241529-7	Stage II, III & IV distributor. Extra fast advance curve. B18 & B20 only.	5° at 750 R.P.M. 10° at 1200 R.P.M. 14° at 2200 R.P.M. Double the values for actual engine degrees and R.P.M. Vacuum advance should be removed.
4	1	552033-3	Mobelec Breakerless Electronic Ignition. A must for competition use when high R.P.M.'s and cold plugs are in use.	
	1	552034-1	Mobelec/Smith Tach adaptor. Use only in the 1800 and accessory Smith Tachometer that use the current impulse principle.	



RALLY INSTRUMENT PANEL

RALLY INSTRUMENT PANEL



**VOLVO**

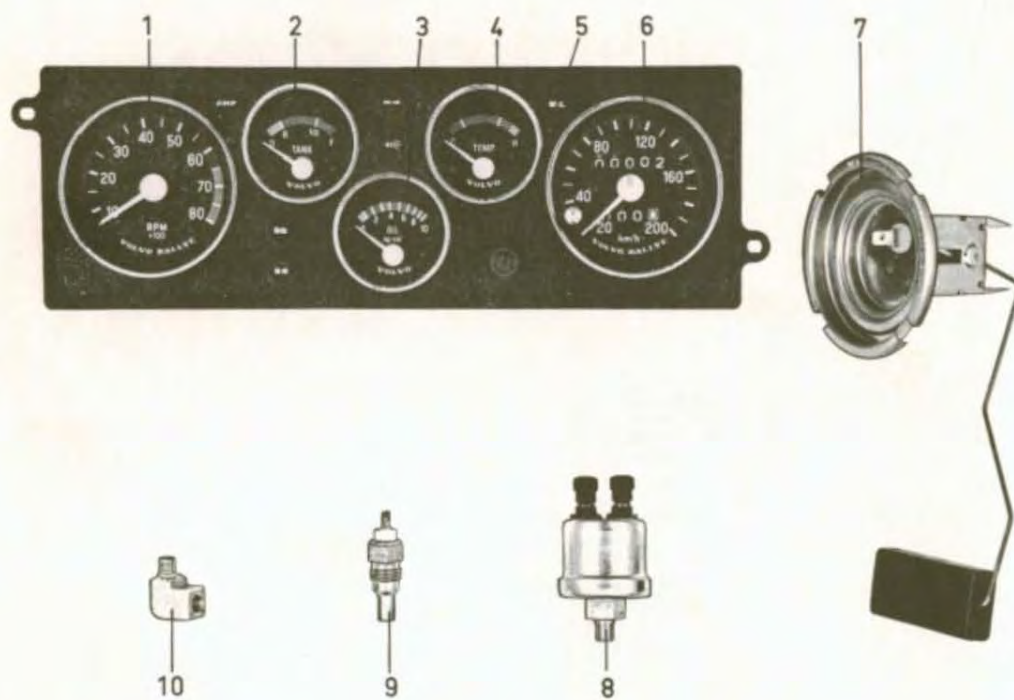
*Competition  
Service*

PROD	SECTION
P140, P164 Instruments	3
DATE	NO.
May 1975	5

Pos	Qty	Part No.	Description	Specification
	1	552703-1	Instrument panel complete, P140 miles p.h. (year model 67-70)	
	1	552723-9	Instrument panel complete, P140 miles p.h. (year model 71-72)	
	1	552704-9	Instrument panel complete, P164 miles p.h. (year model 67-70)	
	1	552724-7	Instrument panel complete, P164 miles p.h. (year model 71-72)	
1	1	552705-6	x Revolution counter, P140	
1	1	552706-4	x Revolution counter, P164	
2	1	552709-8	x Fuel guage	
3	1	552717-1	x Oil pressure guage lb/sq. in.	
	1	552708-0	x Temperature guage	
5	1	552711-4	x Rheostat for instrument panel lighting	
6	1	552715-5	x Speedometer, miles p.h.	
7	1	552712-2	x Tank level unit (year model 67-70)	
7	1	552716-3	x Tank level unit (year model 71-72)	
8	1	552714-8	x Sender for oil pressure guage and warning lamp	

RALLY INSTRUMENT PANEL

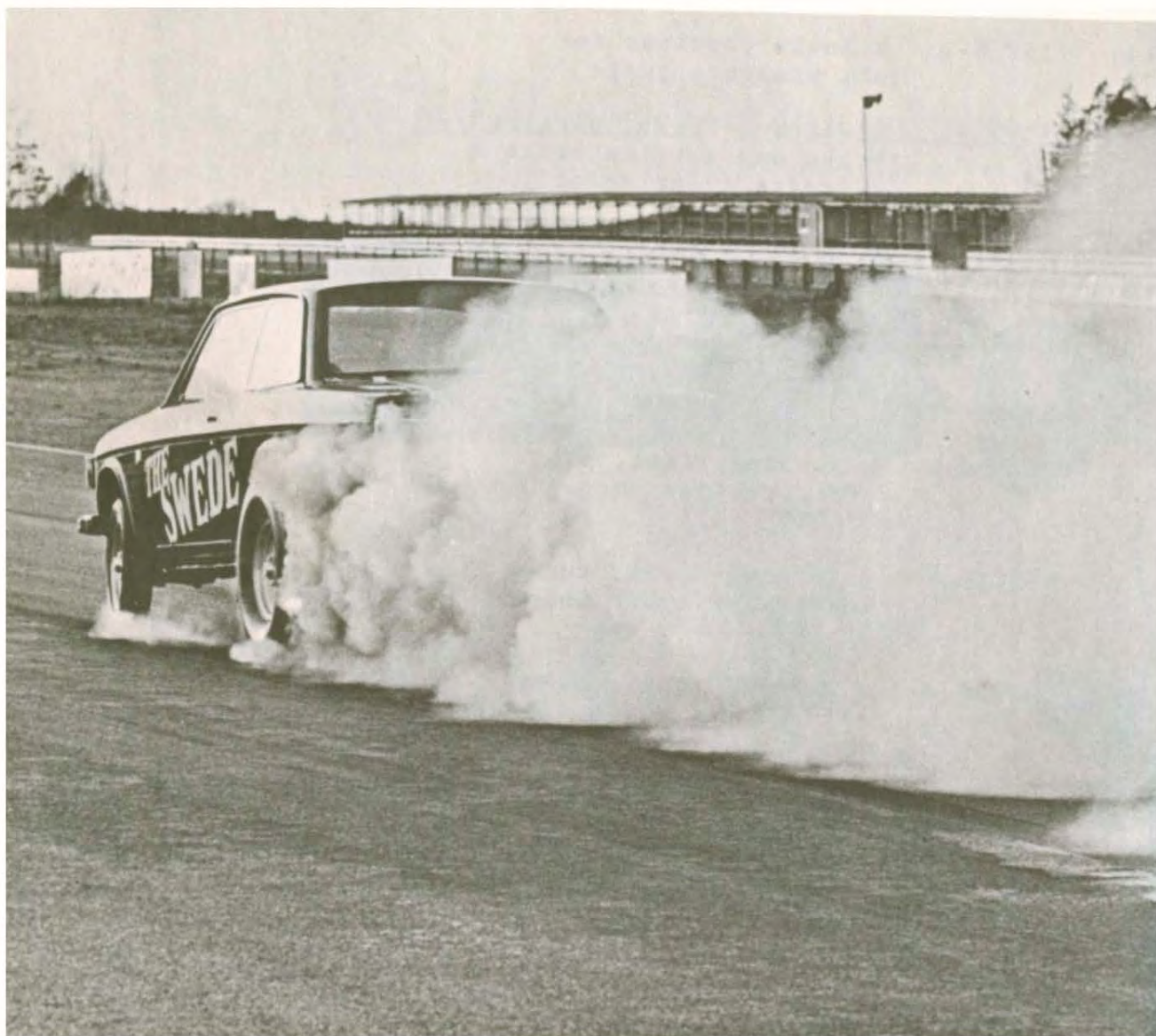
RALLY INSTRUMENT PANEL





<b>VOLVO</b> Competition Service      Instruments		SECTION 3	NO. 6
--	--	--------------	----------

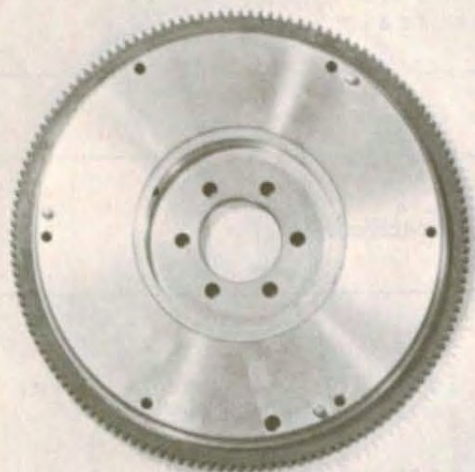
Pos	Qty	Part No.	Description	Specification
9	1	552713-0	x Sender for temperature guage	
10	1	16218-0	x Angle coupling for oil pressure guage	
	1	552725-4	x Warning light, parking brake and service brake circuits (year model 67-72)	
	1	552726-2	x Warning light, mainbeams (year model 67-72)	
	1	552727-0	x Warning light, battery charging (year model 67-72)	
	1	552728-8	x Warning light, oil pressure (year model 67-72)	
	1	552729-6	x Warning light, turn indicators (year model 67-72)	
	1	552730-4	x Warning light, over-drive (year model 67-72)	



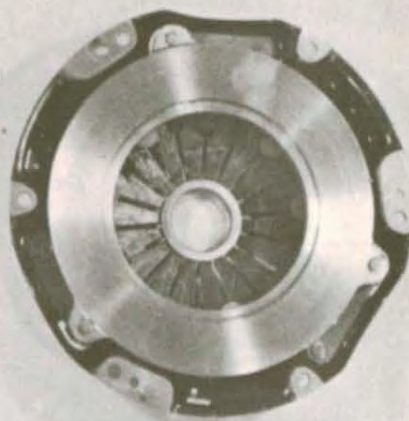
# SECTION 4

## Power Train





2



1



3



8



7



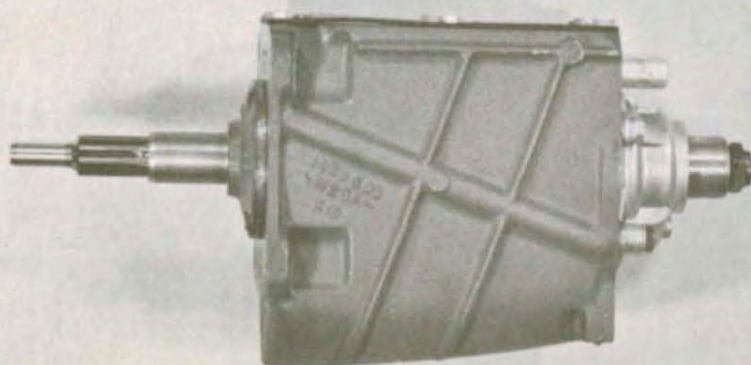
6



5



4



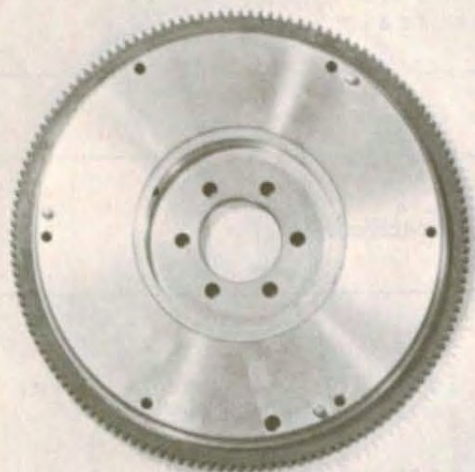
9

**VOLVO**

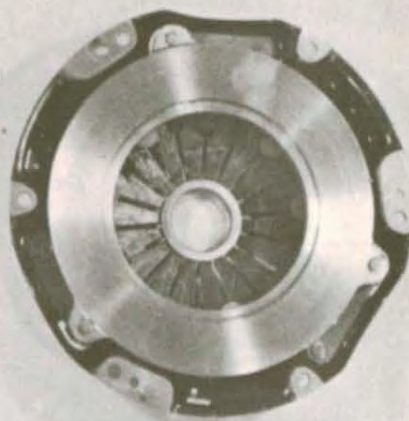
PROD	SECTION
544, 120, 130	4
1800 up to 1969	NO.
Power Train	1
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification															
1	1	418930-4	Clutch Pressure Plate	1200 lbs. clamping force (950 to 1050)															
	1	552145-5	Clutch Pressure Plate	1750 lbs. clamping force															
2	1	*418871-0	Disc for 418930																
	1	552146-3	Disc for 552145																
	1	*380569-4	Clutch release bearing																
It is recommended that a standard M40 gearbox with bronze brushing be converted to a needle-bearing type which was standard in 1800 and early 140 with overdrive. This conversion results in less power loss, easier shifting and increased durability. The following standard parts are required:																			
3	1	*380217-0	1st speed gear																
3	1	*380218-8	2nd speed gear																
3	2	*181330-2	Needle Bearing																
3	1	*181331-0	Needle Bearing																
The following competition close-ratio gears can only be used in needle-bearing type M40/M41:																			
4	1	380422-6	Gear cluster	<table><thead><tr><th></th><th><u>Close Ratio</u></th><th><u>Standard Ratio</u></th></tr></thead><tbody><tr><td>1st</td><td>2.62:1</td><td>(3.13:1)</td></tr><tr><td>2nd</td><td>1.67:1</td><td>(1.99:1)</td></tr><tr><td>3rd</td><td>1.34:1</td><td>(1.36:1)</td></tr><tr><td>4th</td><td>1:1</td><td>(1:1)</td></tr></tbody></table>		<u>Close Ratio</u>	<u>Standard Ratio</u>	1st	2.62:1	(3.13:1)	2nd	1.67:1	(1.99:1)	3rd	1.34:1	(1.36:1)	4th	1:1	(1:1)
	<u>Close Ratio</u>	<u>Standard Ratio</u>																	
1st	2.62:1	(3.13:1)																	
2nd	1.67:1	(1.99:1)																	
3rd	1.34:1	(1.36:1)																	
4th	1:1	(1:1)																	
5	1	380423-4	3rd speed gear																
6	1	380382-2	Input shaft																





2



1



3



8



7



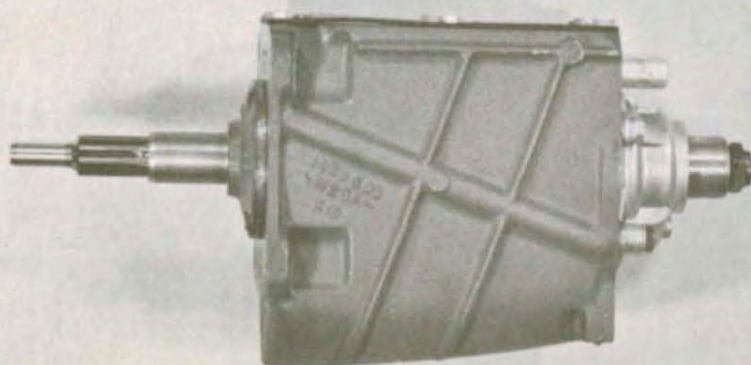
6



5



4



9



**VOLVO**

Competition Service

Power Train

SECTION

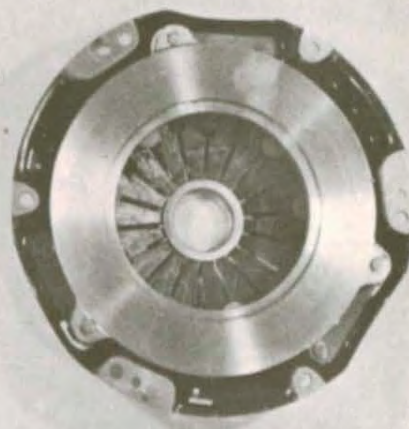
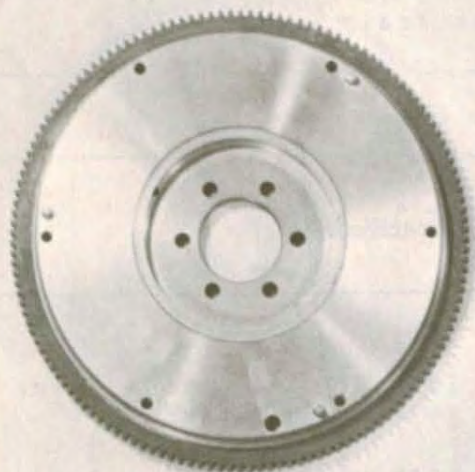
4

NO.

2

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

1		*279954-2	Limited Slip M30	
1		500984-0	Final gear 4.88:1, M27 rear axle	
1		525880-1	Final gear 4.88:1, M30 rear axle	



2

1



3



8



7



6



5



4



9

**VOLVO**

*Competition  
Service*

PROD	SECTION
P140, 1800E	4
Except 1970	NO.
Power Train	3
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
1	1	418930-4	Clutch Pressure Plate	1200 lbs. clamping force (950 to 1050)
	1	552145-5	Clutch Pressure Plate	1750 lbs. clamping force (950 to 1050)

2	1	*418871-0	Disc for 418930	
	1	552146-3	Disc for 552145	
	1	*380569-4	Clutch release bearing	
9	1	254775-0	Close-Ratio M40 gear- box with extended gear lever. Needle bearings are fitted along with the following gear ratios:	

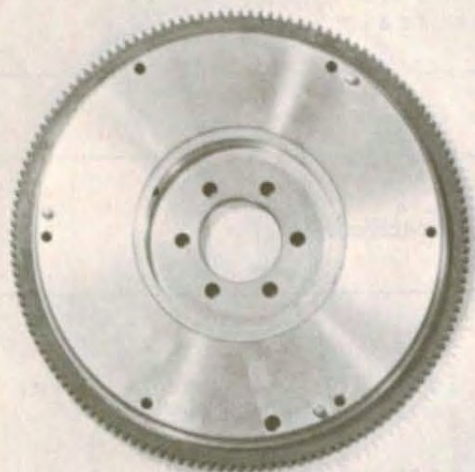
	<u>Close Ratio</u>	<u>Standard Ratio</u>
--	--------------------	-----------------------

1st	2.62:1	(3.41:1)
2nd	1.67:1	(1.99:1)
3rd	1.24:1	(1.36:1)
4th	1:1	(1:1)

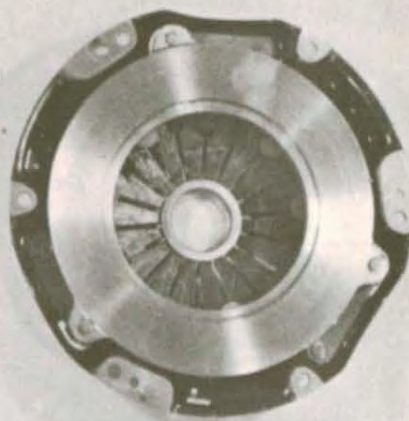
It is recommended that a standard M40 gearbox with bronze bushings be converted to a needle-bearing type, as used in the 1800. This conversion results in less power loss, easier shifting and increased durability. The following standard parts are required:

3	1	*380217-0	1st speed gear
3	1	*380218-8	2nd speed gear
3	1	*181330-2	Needle bearing
3	1	*181331-0	Needle bearing





2



1



3



8



7



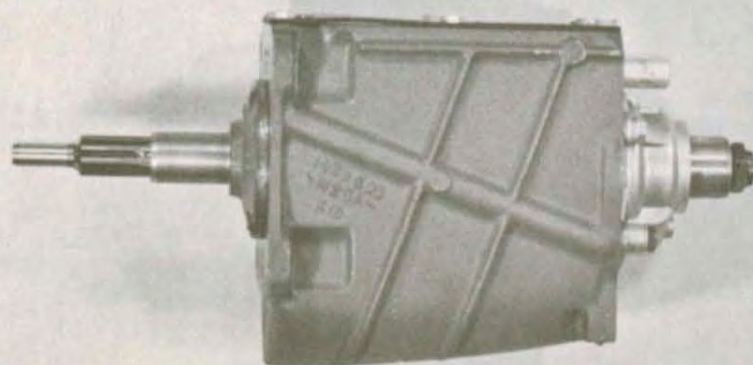
6



5



4

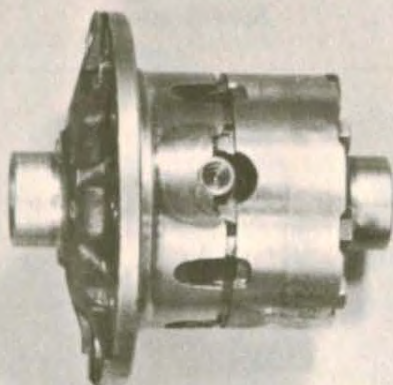


9

<b>VOLVO</b> Competition Service		Power Train	SECTION 4	NO. 4
-------------------------------------	--	-------------	--------------	----------

Pos	Qty	Part No.	Description	Specification
<u>Conversion Parts A</u>				
For conversion of needle-bearing standard gearbox, M40, to close-ratio gearbox up to '70 year model				
4	1	380422-6	Gear cluster	
5	1	380423-4	3rd speed gear	
6	1	380382-2	Input shaft	
<u>Conversion parts B</u>				
For conversion of needle-bearing standard gearbox, M40, to close-ratio gearbox from '71 year model				
4	1	380824-3	Gear cluster	
5	1	380423-4	3rd speed gear	
6	1	380382-2	Input shaft	
<u>Conversion parts C</u>				
Reduction gear to give correct speedometer indication with rear axle ratio 4:88:1. Suits gearbox 254775-0				
7	1	380789-8	Gear, large, for output shaft	
8	1	380305-3	Drive gear, small (plastic)	





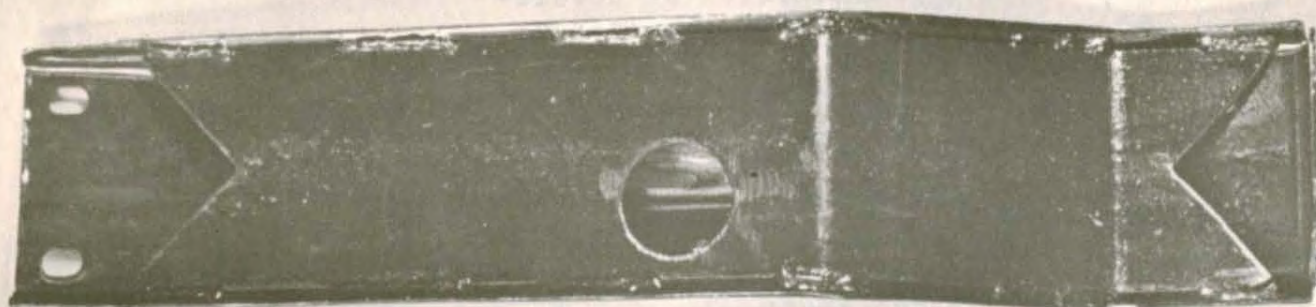
4



1



3



2



5



**VOLVO**

140 Power Train

Competition Service

SECTION

4

NO.

5

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

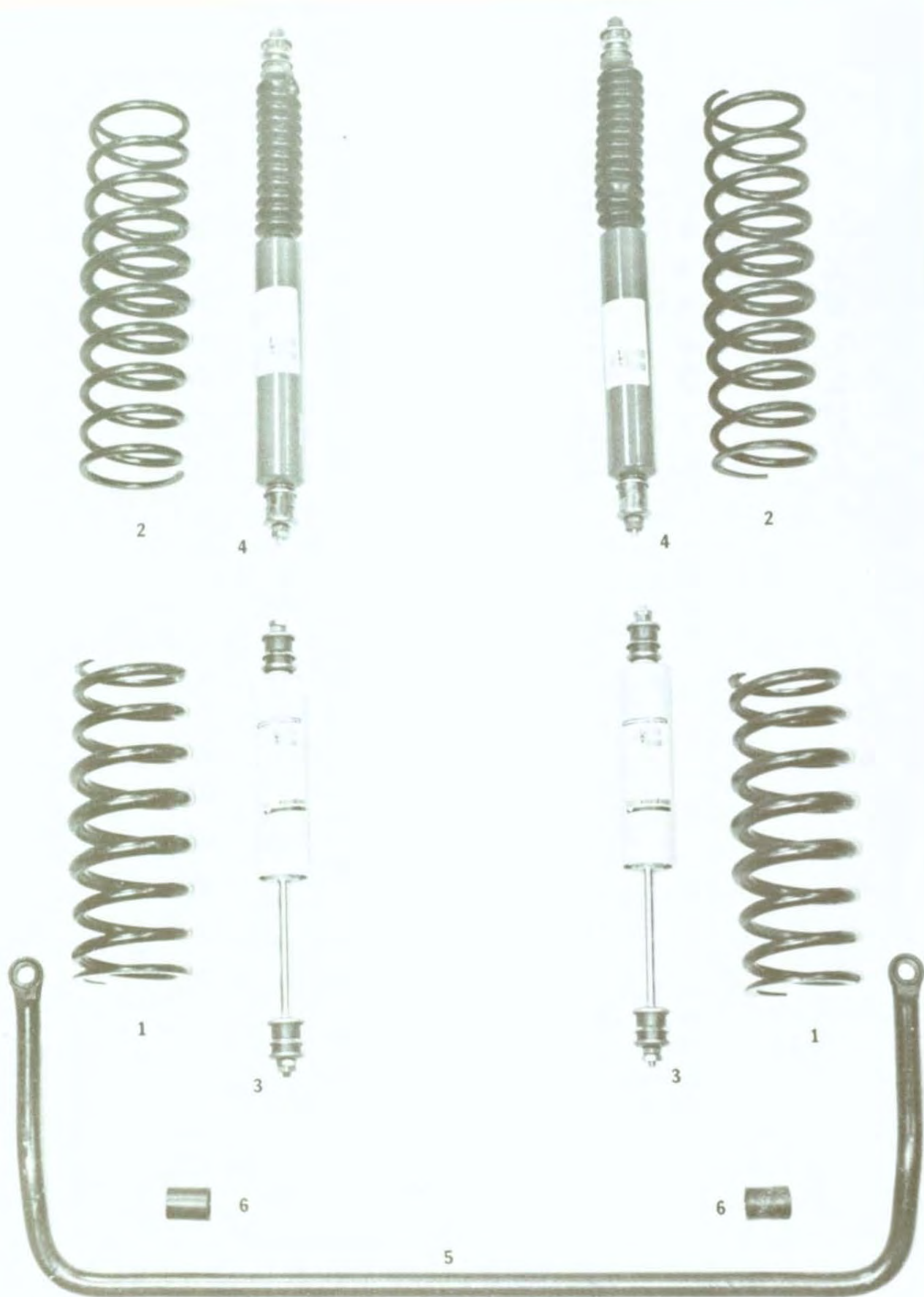
1	1	552153-9	Extra hard rubber support for center propeller shaft bearing up to 1969	
	1	552154-7	Extra hard rubber support for center propeller shaft bearing 70 and 71 models	
	1	552155-4	Extra hard rubber support for center propeller shaft bearing 72 thru 74 and all F.I. models including 1800 and 164	
2	1	552156-2	Extra strong rear cross-member for gearbox mounting	
3	1	552158-8	Extra strong steel collar for propeller shaft center bearing support	
4	1	*279952-6	Limited slip for 67-69 140 M30 rear axle	
	1	*279951-8	Limited slip for M30 from 1970 140/160/1800E	
5	1	525880-1	Final gear 4.88:1 for 67 on M30 rear axle	
	1	552144-8	Final gear 5.38:1 for 67 on M30 rear axle	



# SECTION 5

## Suspension





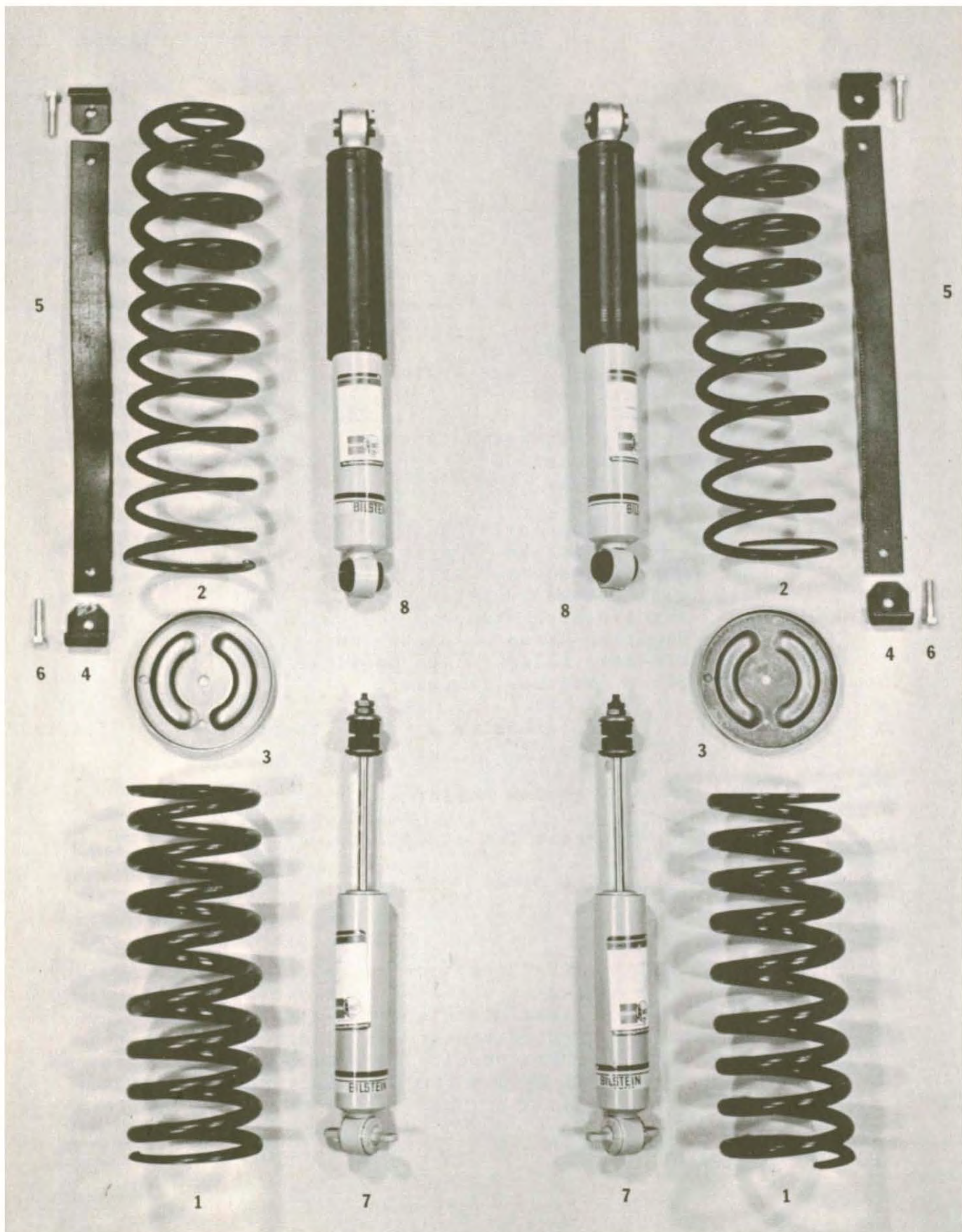
**VOLVO**

*Competition  
Service*

PROD	SECTION
120, 130, 1800S	5
1800E/ES, 544	NO.
(Shocks Only)	1
Suspension	
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
1	2	525060-0	Front rally progressive rate spring. 20% stiffer	Length 12" (12")
2	2	525061-8	Rear rally progressive rate spring. 10% stiffer	Length 15" (15")
			<p>"Progressive rate" refers to the extra capability of a spring to actually increase its stiffness as compressed. It is accomplished through the use of varying the steels diameter through the spring. This results in a relatively comfortable ride yet provides the necessary stiffness for large dips, bumps and hard cornering.</p>	
3	2	552101-8	Bilstein rally shock absorber, front	
4	2	552102-6	Bilstein rally shock absorber, rear	
5	1	659866-8	Front anti-sway bar, 24mm. Reduces body roll and increases stability. Very little increase in understeer.	Size 24mm (20mm)
6	2	659869-2	Rubber bushing for 24mm anti-sway bar	
	1	*275894-4	Extra hard brake pads, front	
	2	552093-7	Front Bilstein shock absorber 444/544	
	2	552094-5	Rear Bilstein shock absorber 444/544	





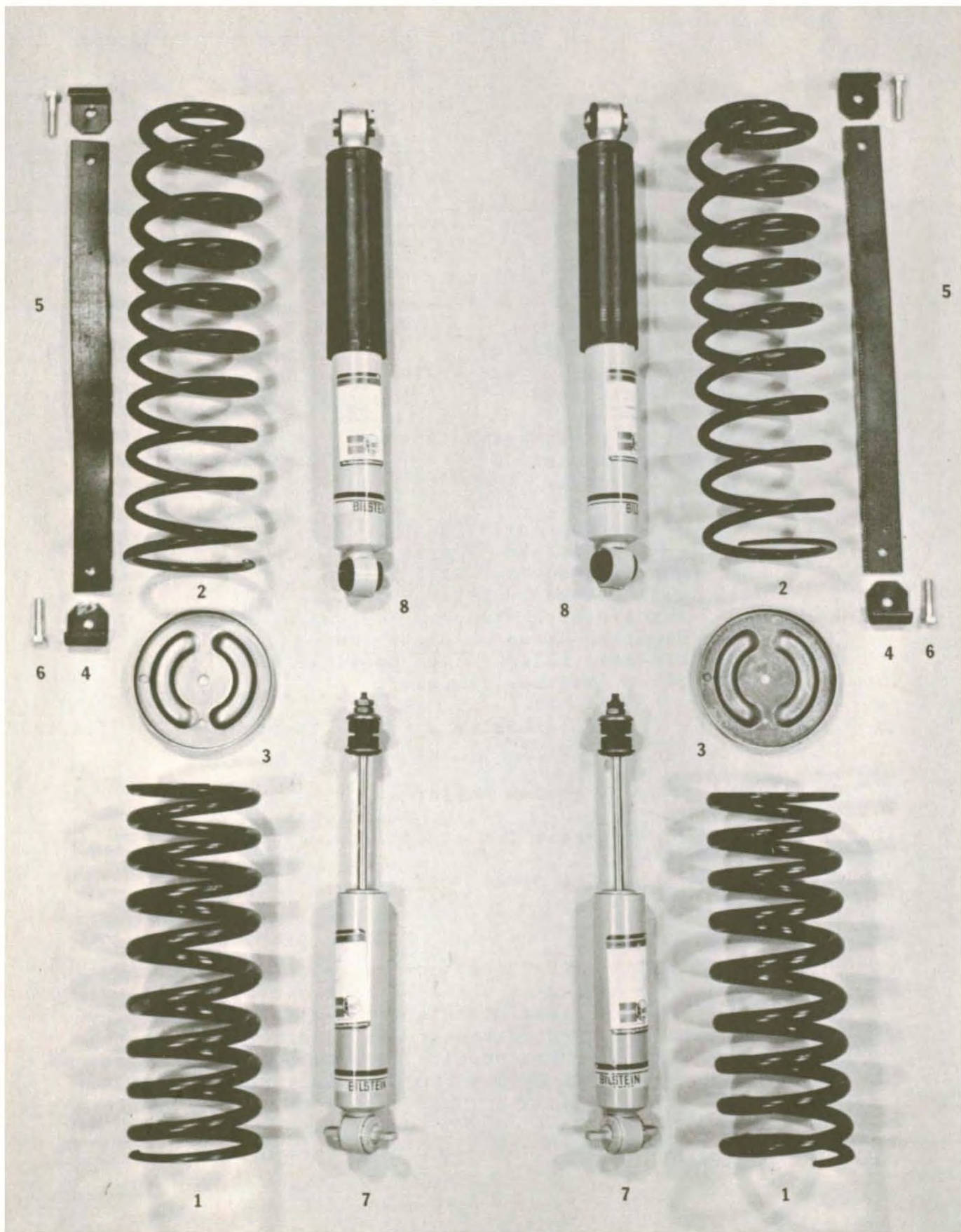


**VOLVO**

PROD	SECTION
P140	5
Suspension	NO. 2
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
1	2	552105-9	Front road/rally progressive rate spring. 15% stiffer.	Length 11 1/2" (12")
	2	552106-7	Front progressive rate rally spring. 25% stiffer.	Length 13" (12")
	2	552137-2	Rear, progressive rate spring package - includes one special rear spring plus necessary attachments for limiting straps. Limiting strap necessary for off-road rally due to possible shock absorber damage.	
2	1	552136-4	x Rear progressive spring. 15% stiffer	Length 17 1/2" (16 1/2")
3	1	552151-3	x Lower spring holder	
4	2	552152-1	x Attachment for strap	
5	1	*660108-2	x Limiting strap	
6	2	*940162-1	x Bolt	

"Progressive Rate" refers to the extra capability of a spring to actually increase its stiffness as compressed. It is accomplished through the use of varying the steels diameter through the spring. This results in a relatively comfortable ride yet provides the necessary stiffness for large dips, bumps and hard cornering.





**VOLVO**

Competition Service

P140 Suspension

SECTION

5

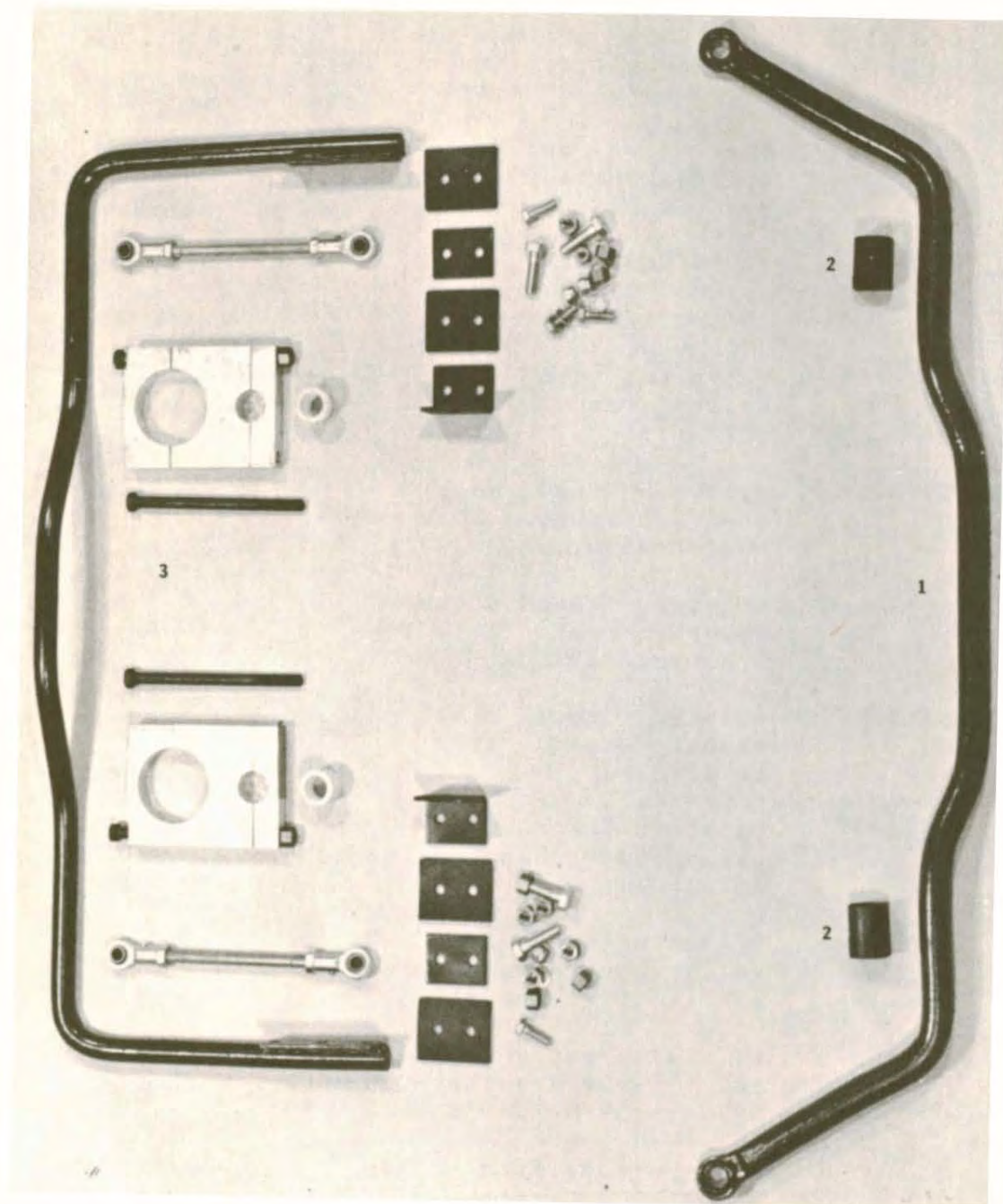
NO.

3

Pos	Qty	Part No.	Description	Specification
	2	552134-9	Road/Rally spring, front ride height remains standard. 70% stiffer	Length 10" (12")
	2	552128-1	Short, Road/Rally spring, rear. 10% stiffer	Length 14 1/2" (16 1/2")
	2	552107-5	Volvo Cup race spring, front. 50% stiffer	Length 9 1/2" (12")
	2	552108-2	Volvo Cup race spring, rear. 10% stiffer	Length 13" (16 1/2")
7	2	552095-2	Bilstein "road" shock absorber-front. Firm yet comfortable. All 140's	
	2	552096-0	Bilstein "road" shock absorber-rear. 1967 to 9/71 and *1975	
8	2	552097-8	Bilstein "road" shock absorber-rear. 1971 to 1974	
	2	552103-4	Bilstein "extra firm" rally shock absorber-front. All 140's	
	2	552104-2	Bilstein "extra firm" rally shock absorber-rear. 1967 to 9/71 and *1975	
	2	552092-9	Bilstein "extra firm" rally shock absorber-rear. 1972 to 1974 140's	
	2	552191-9	Extra strong front rally shock by deCarbon. All 140's. Slightly firmer dampening	

\* Lower steel bushing must be shortened by  
1/4" for proper fit.





**VOLVO**

Competition Service

P140 Suspension

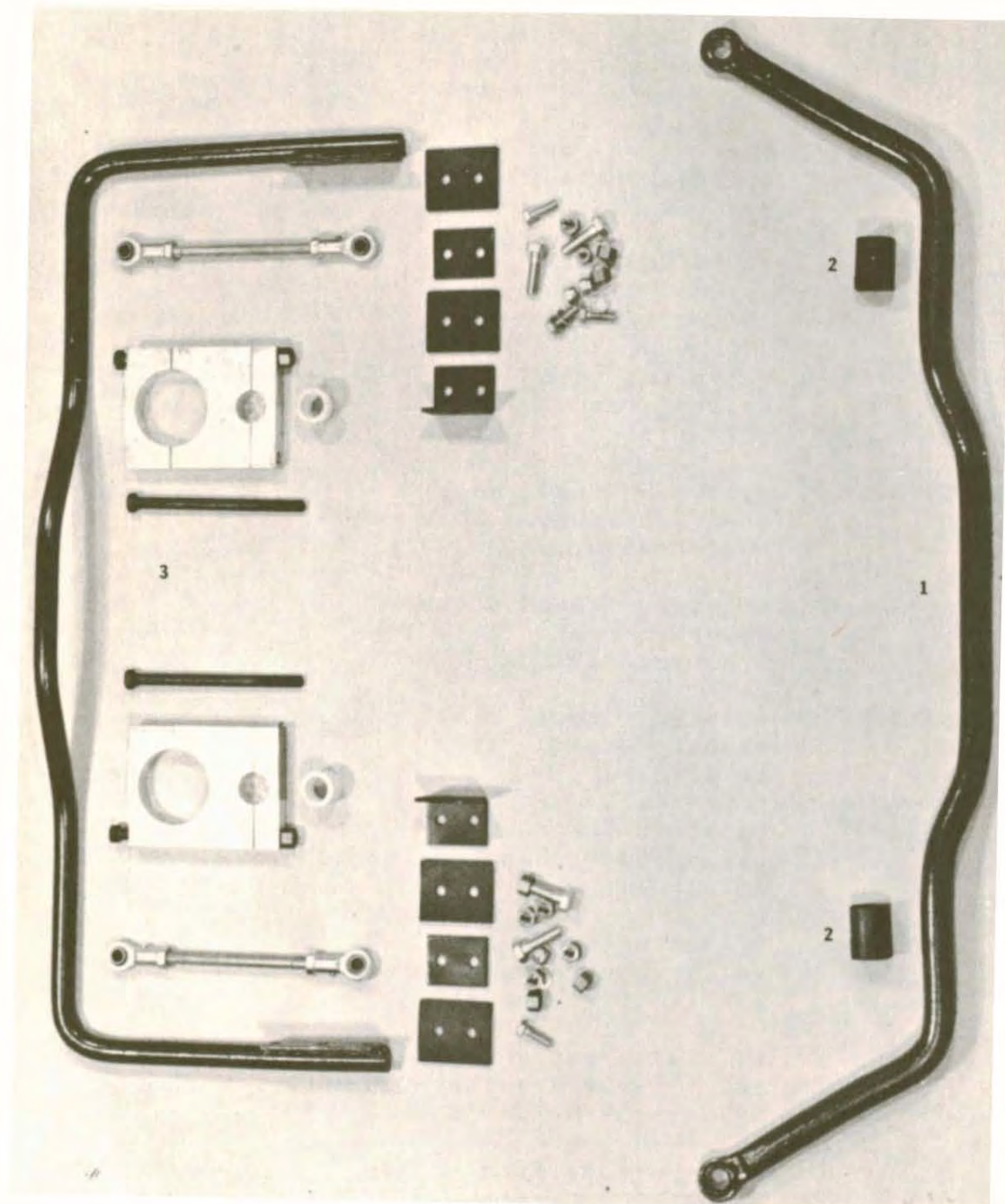
SECTION

5

NO.

4

Pos	Qty	Part No.	Description	Specification
	2	552192-7	Extra strong rear rally shock absorber by deCarbon. All 140's but needs adapter kit #282761-6 for 1967 to 1970 models. Slightly firmer dampening.	
	1	552171-9	Front Anti-Sway Bar, 18mm. Reduces body roll without ride deterioration or increased understeer. all 140's	(15mm)
	1	552172-9	Front Anti-Sway Bar, 20mm. Definite reduction in body roll without hard ride or excessive understeer. Adds to stability in cross-wind and lane change. Best choice for any off road use. All 140's	(15mm)
	2	552173-7	Larger rubber bushings for 20mm bar	
1	1	552175-2	Front Anti-Sway Bar, 25mm (1 inch). Eliminates body roll by 70% and greatly reduces front tire roll-over. Increase ride stiffness noticeably and is recommended for smooth road or race track. Not recommended for use on very rough or off-road conditions. Although understeer is increased with the use of the bar, many drivers find it "interesting" and prefer not to use an additional rear bar.	(15mm)





**VOLVO**

Competition Service

P140 Suspension

SECTION

5

NO.

5

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

2	2	552176-0	Large rubber bushing for 25mm bar	
---	---	----------	-----------------------------------	--

3	1	552177-8	Rear Anti-Sway Bar, 20mm, adjustable. Made of exceptionally durable material that allows precision adjustment of handling behavior. Adjusting mechanism may transmit "rattle" noise into body. Recommended for COMPETITIVE RACING & RALLY USE.	
---	---	----------	--	--

	1	552174-5	Anti-Sway Bar Kit - combines 25mm front bar and 20mm rear adjustable bar into one kit. All 140's.	
--	---	----------	---	--

1	1	552175-2	x Stabilizer, front Ø 25mm	
---	---	----------	----------------------------	--

2	2	552176-0	x Bushing for above	
---	---	----------	---------------------	--

3	1	552177-8	x Stabilizer kit, rear Ø 20mm. Consisting of:	
---	---	----------	---	--

	1	552510-0	x Attachment kit rear for 552177	
--	---	----------	----------------------------------	--

	1	552525-8	x Attachment kit front for 552177	
--	---	----------	-----------------------------------	--

	1	552178-6	x Stabilizer rear Ø 20mm	
--	---	----------	--------------------------	--

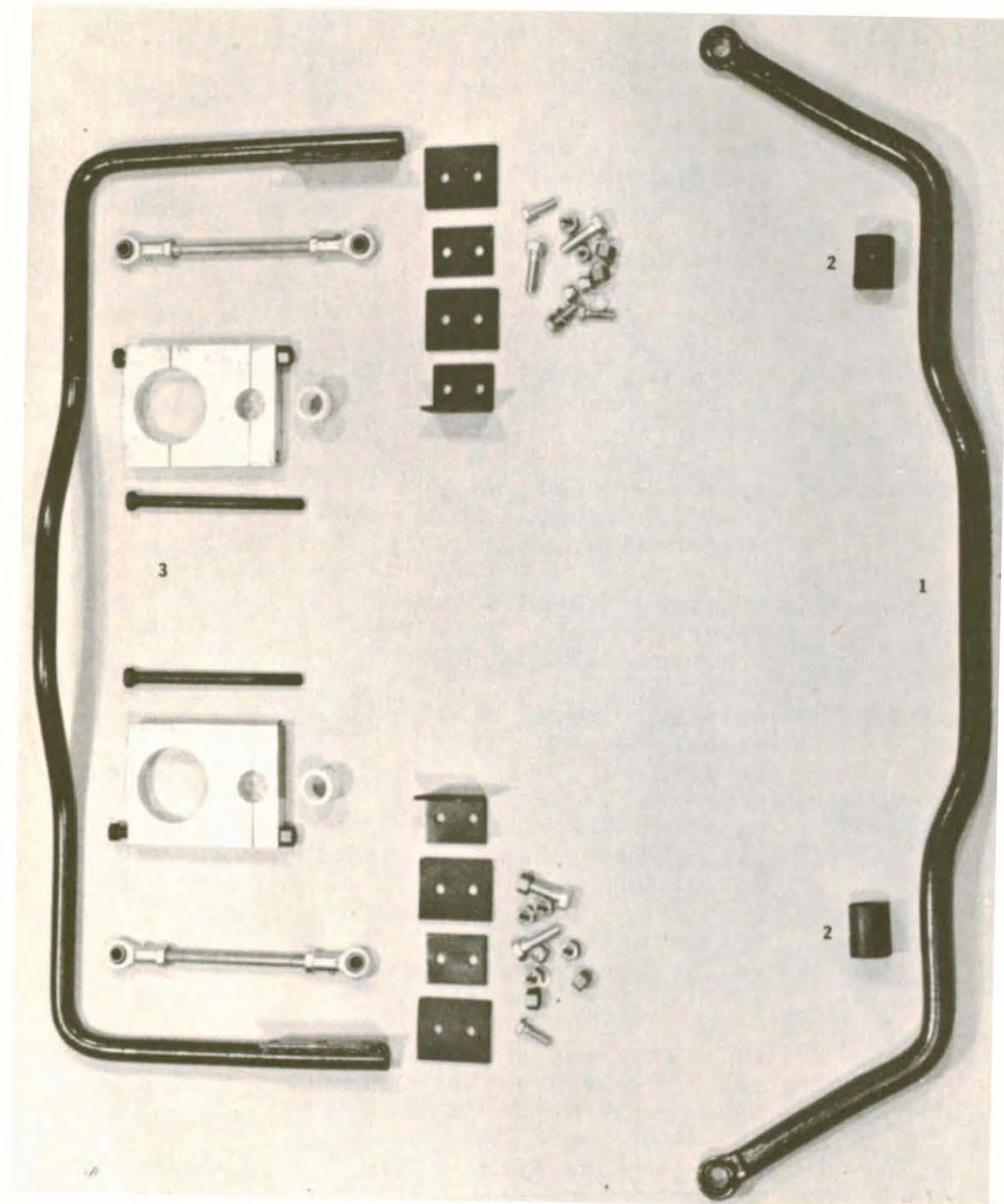
	1	552510-0	Attachment kit rear for 552177	
--	---	----------	--------------------------------	--

	2	552511-8	x Attachment	
--	---	----------	--------------	--

	2	552515-9	x Bushing	
--	---	----------	-----------	--

	4	*955335-5	x Bolt	
--	---	-----------	--------	--

	4	*945654-2	x Nut	
--	---	-----------	-------	--

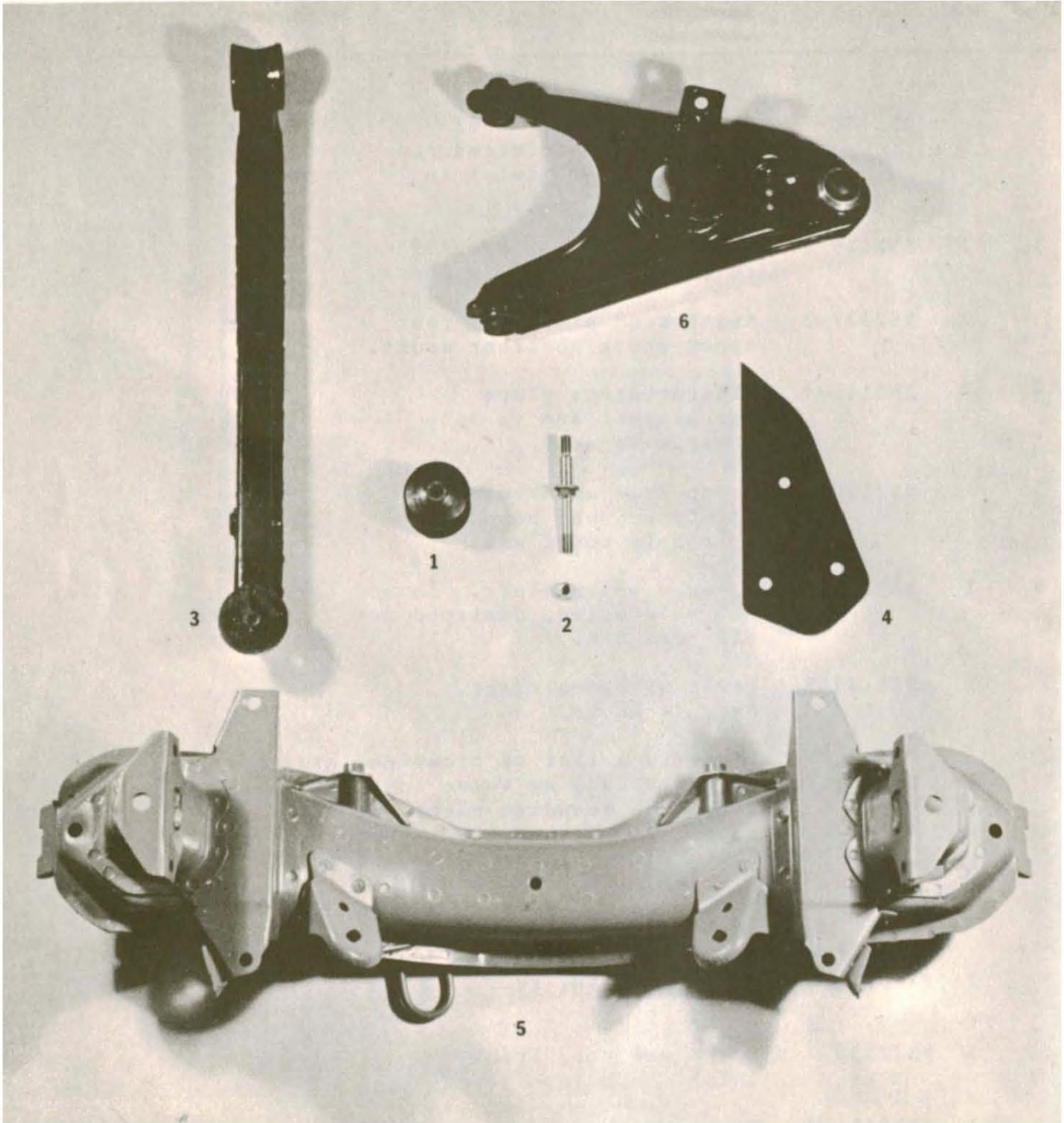


<b>VOLVO</b> Competition Service      P140 Suspension	SECTION 5	NO. 6
--	--------------	----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

	8	*940097-9	x Washer	
	1	552525-8	Attachment kit, front, for 552177	
	4	552526-6	x U-ball joint	
	2	552527-4	x Rod	
	2	552529-0	x Bracket	
	2	552530-8	x Support bracket	
	4	552531-6	x Rubber	
	4	**19660-0	x Nut	
	4	*955525-1	x Bolt	
	4	*955894-1	x Washer	
	4	*950353-3	x Nut	
	4	*955319-9	x Bolt	
	8	*940097-9	x Washer	
	4	*945654-2	x Nut	
<b>1</b>	2	552140-6	Extra hard bushing for rear suspension support arms. Eliminates any tendency for rear suspension to shift during hard cornering, braking or acceleration.	
<b>2</b>	2	552141-4	Stainless steel lower shock absorber mounting bolt. Recommended for heavy duty use with stiffer shock absorbers.	

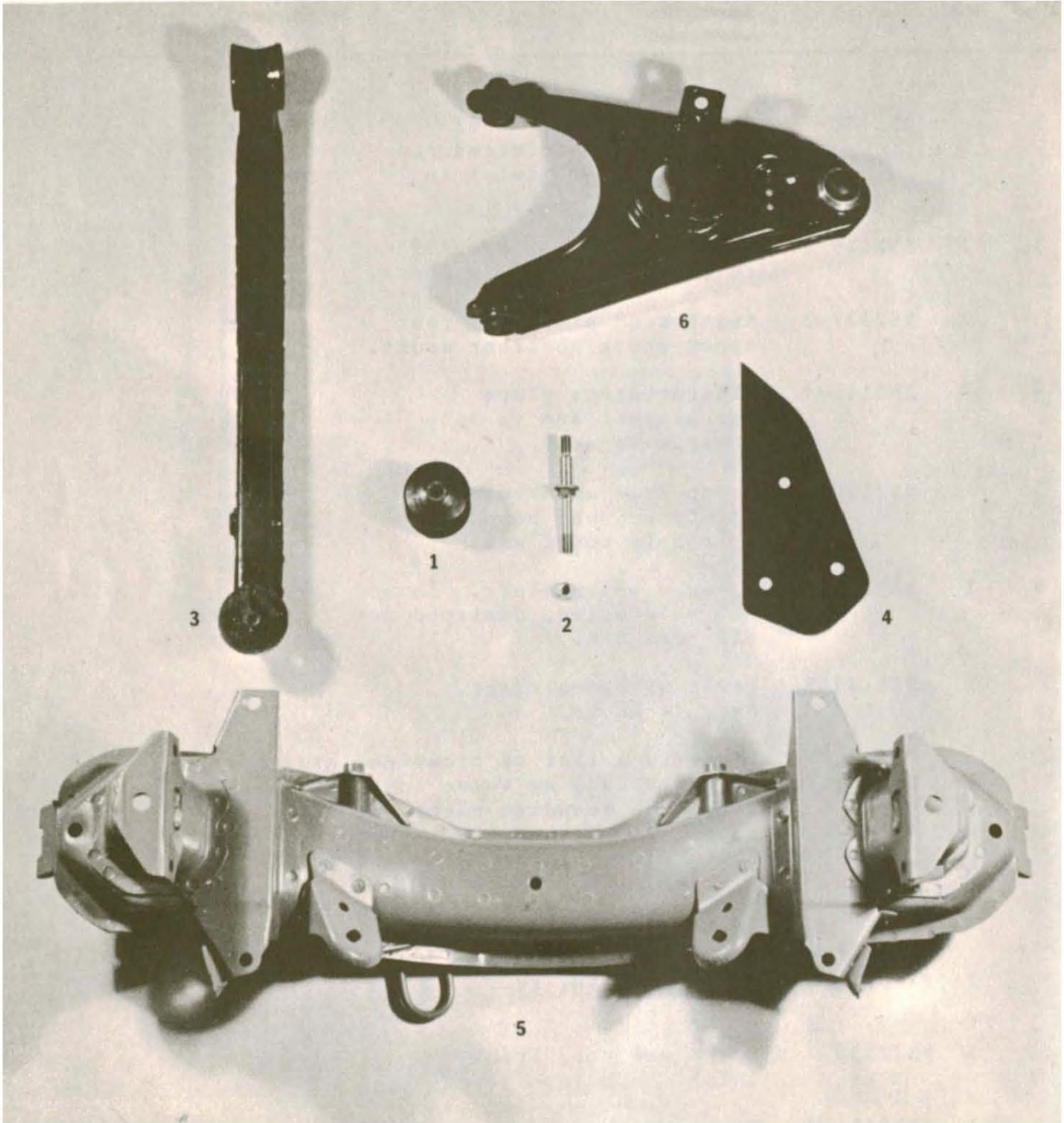




<b>VOLVO</b> Competition Service		SECTION 5	NO. 7
-------------------------------------	--	--------------	----------

Pos	Qty	Part No.	Description	Specification
3	2	552138-0	Rear support for 1967-1970 140. Reinforced and boxed for zero twist in off-road use.	
3	2	552139-8	Rear support arm for 1971 to 1974 140, same as above.	
	2	552127-3	Reinforced plate for rear upper shock absorber mount.	
4	2	552142-2	Reinforcement plate for support arm to body chassis mount.	
5	1	552130-7	Front axle cross-member, reinforced and boxed, for extremely rough use.	
6	1	552131-5	Lower wishbone-left. Boxed and reinforced, designed for off-road use.	
	1	552132-3	Lower wishbone-right. Same as above.	
			Below is a list of brake pad kits most commonly used by Volvo competitors. These are standard parts and choice is best left to individual preference due to variances in both car and driver.	
	1	*275894-4	Brake pad kit, front (Girling)	
	1	*275895-1	Brake pad kit, rear (Girling)	
	1	*272530-7	Brake pad kit, front (ATE)	
	1	*272531-5	Brake pad kit, rear (ATE)	





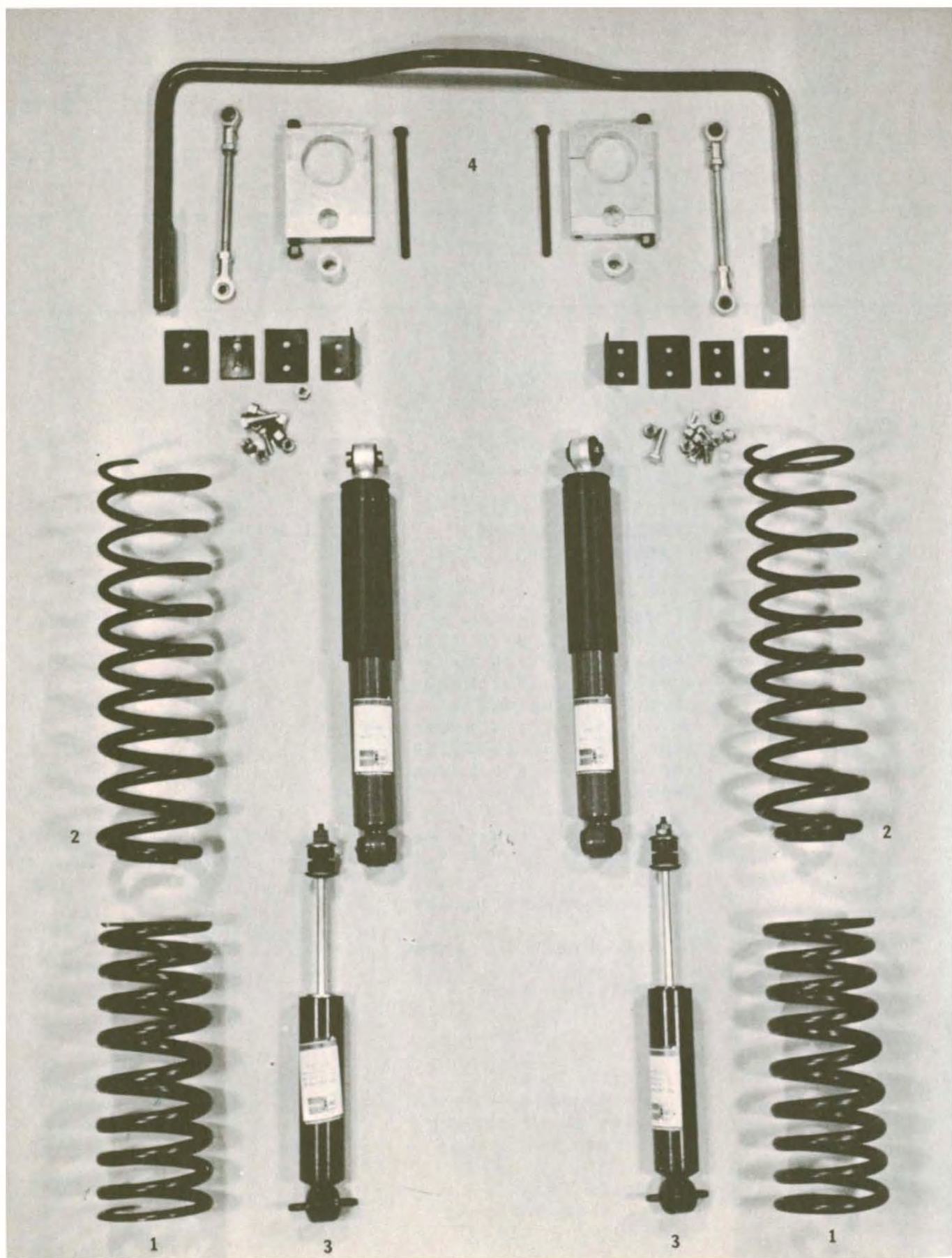


<b>VOLVO</b> Competition Service	SECTION 5	NO. 8
-------------------------------------	--------------	----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

1		*272566-1	Brake pad kit, front (Girling)	
---	--	-----------	-----------------------------------	--

1		*272567-9	Brake pad kit, rear (Girling)	
---	--	-----------	----------------------------------	--



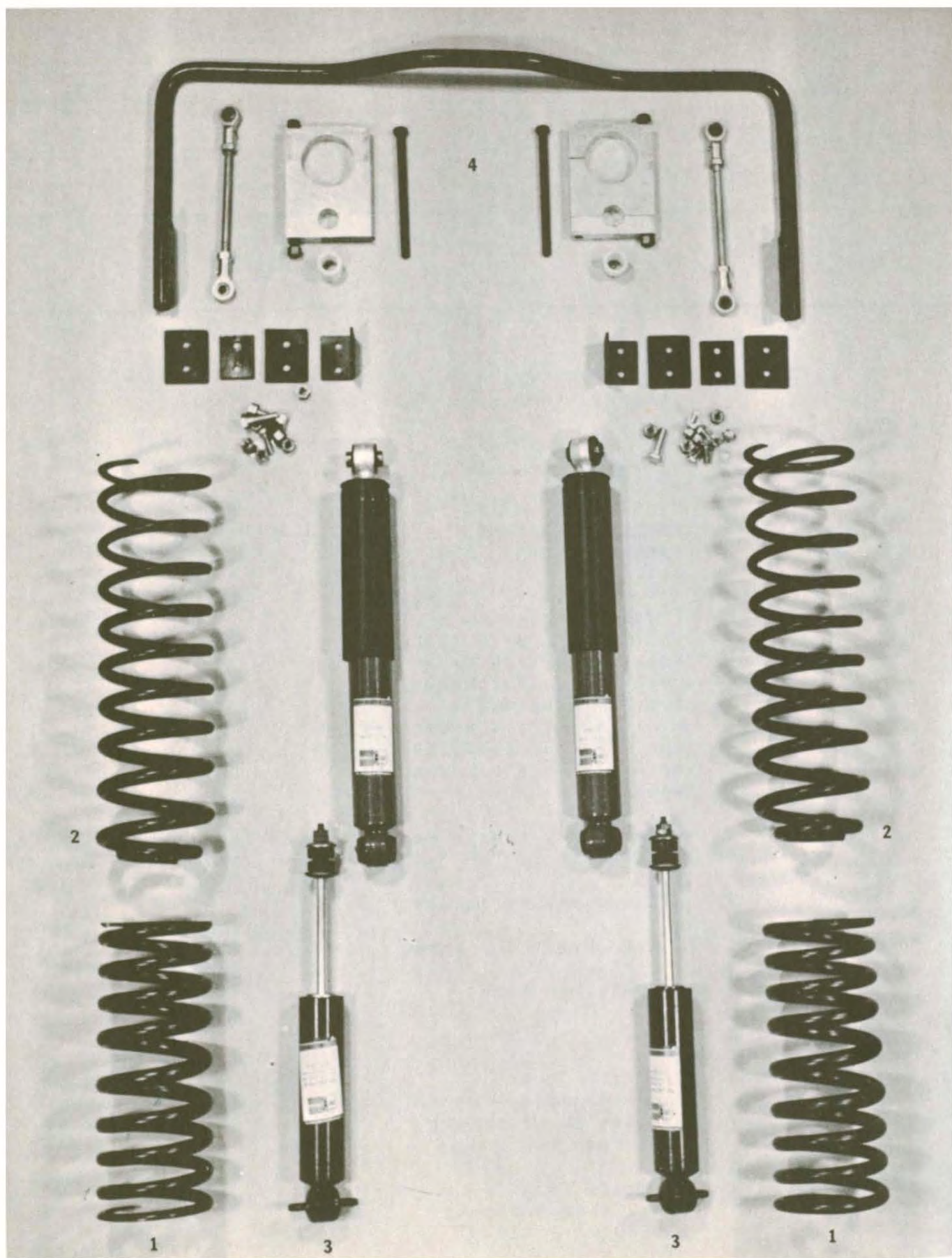
**VOLVO**

*Competition  
Service*

PROD	SECTION
P164	5
Suspension	NO. 9
DATE	
May, 1975	

Pos	Qty	Part No.	Description	Specification
	1	552134-9	Short road/rally spring, front	Length 10" (12")
	2	552128-1	Short road/rally spring rear. 10% stiffer.	Length 14 1/2" (16 1/2")
1	2	552135-6	Progressive rate spring, front. 10% stiffer.	Length 12" (12")
	2	552137-2	Progressive rate spring package - rear. Special springs plus necessary attachments for limiting straps. Limiting straps necessary for off-road rally due to possible shock absorber damage.	
2	1	552136-4	x Rear progressive springs.	Length 17 1/2" (16 1/2") 15% stiffer.
	1	552151-3	x Lower spring holder	
	2	552152-1	x Attachment for strap	
	1	*660108-2	x Limiting strap	
	2	*940162-1	x Bolt	
3	2	552098-6	Bilstein "road" shock absorber-front. All 164's. Firm yet comfortable.	
	2	552099-4	Bilstein "road" shock absorber-rear. 1969-9/71 & *1975.	

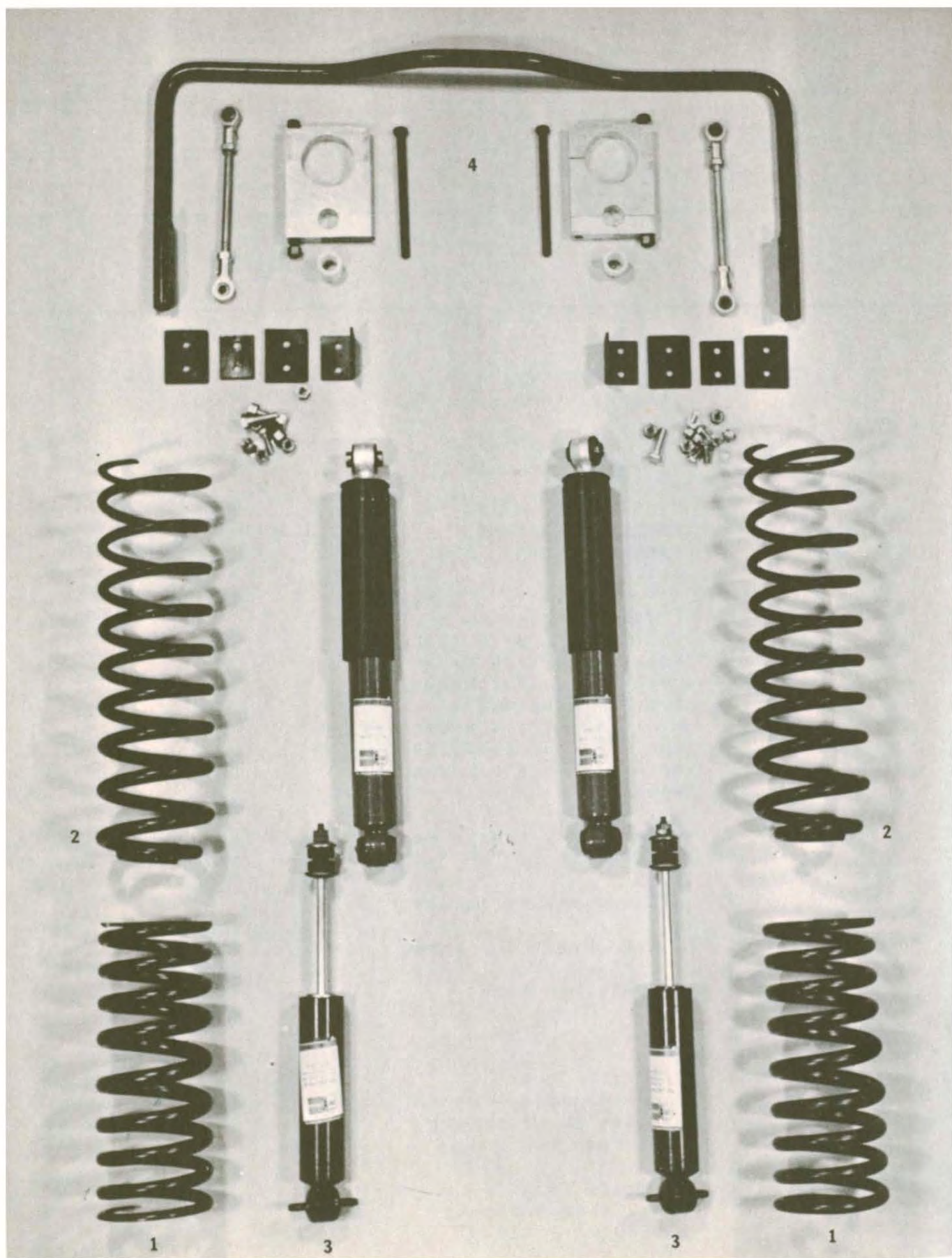




<b>VOLVO</b> Competition Service	P164 Suspension	SECTION 5	NO. 10
-------------------------------------	-----------------	--------------	-----------

Pos	Qty	Part No.	Description	Specification
	2	552100-0	Bilstein "road" shock absorber-rear. 1971-1974 164 models.	
	2	552103-4	Bilstein extra firm "rally" shock absorber-front. All 164's.	
	2	552104-2	Bilstein extra firm "rally" shock absorber-rear. 1969 to 9/71 & 1975 164's.	
	2	552092-9	Bilstein extra firm "rally" shock absorber-rear. 1972-1974 164's.	
4	1	552177-8	20mm Rear Anti-Sway Bar, adjustable. Made of extremely durable material that allows precision adjustment of handling behavior. Recommended for race course use. Adjusting mechanism may transmit noise into body.	
	1	552510-0	x Attachment kit rear for 552177	
	1	552525-8	x Attachment kit front for 552177	
	1	552178-6	x Stabilizer rear Ø 20mm	
	1	552510-0	Attachment kit rear for 552177	
	2	552511-8	x Attachment	
	2	552515-9	x Bushing	
	4	*955335-5	x Bolt	
	4	*945654-2	x Nut	
			* Lower steel bushing must be shortened by 1/4" for proper fit.	







**VOLVO**

Competition Service

P164 Suspension

SECTION

5

NO.

11

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

	8	*940097-9	x Washer	
--	---	-----------	----------	--

	1	552525-8	Attachment kit front for 552177	
--	---	----------	------------------------------------	--

	4	552526-6	x U-ball joint	
--	---	----------	----------------	--

	2	552527-4	x Rod	
--	---	----------	-------	--

	2	552529-0	x Bracket	
--	---	----------	-----------	--

	2	552530-8	x Support bracket	
--	---	----------	-------------------	--

	4	552531-6	x Rubber	
--	---	----------	----------	--

	4	*19660-0	x Nut	
--	---	----------	-------	--

	4	*955525-1	x Bolt	
--	---	-----------	--------	--

	4	*955894-1	x Washer	
--	---	-----------	----------	--

	4	*950353-3	x Nut	
--	---	-----------	-------	--

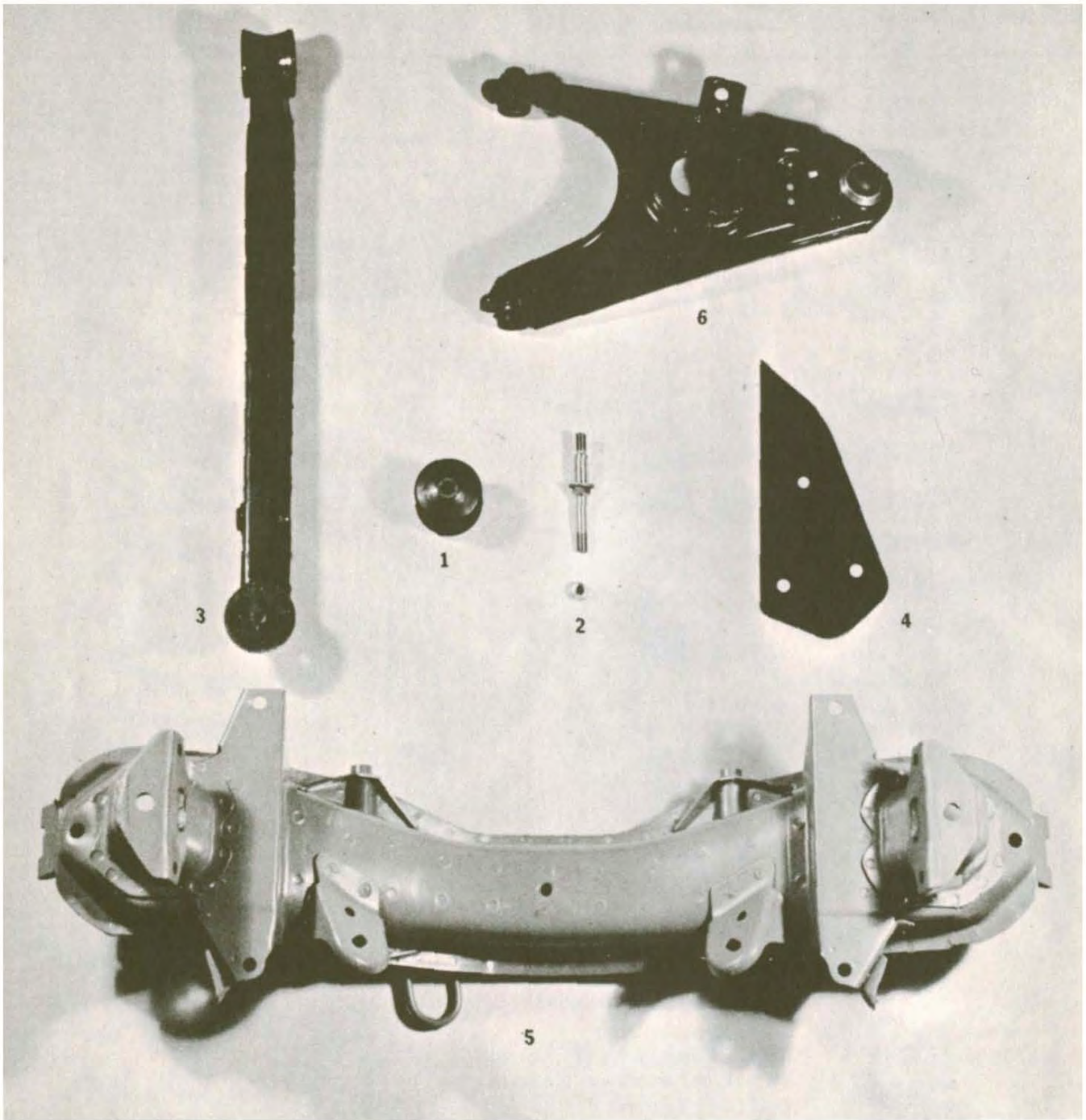
	4	*955319-9	x Bolt	
--	---	-----------	--------	--

	8	*940097-9	x Washer	
--	---	-----------	----------	--

	4	*945654-2	x Nut	
--	---	-----------	-------	--

1	2	552140-6	Extra hard bushing for rear suspension support arms. Eliminates any tendency for rear suspension to shift during cornering, braking or acceleration.	
---	---	----------	--	--

2	2	552141-4	Stainless steel lower shock absorber mounting bolt. Recommended for heavy duty use with stiffer shock absorber.	
---	---	----------	---	--



<b>VOLVO</b> Competition Service	P164 Suspension	SECTION 5	NO. 12
-------------------------------------	-----------------	--------------	-----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

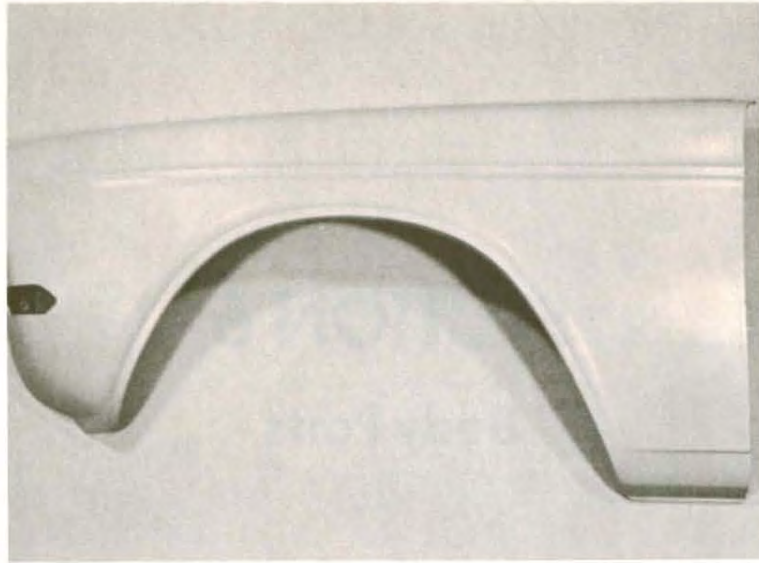
3	2	552138-0	Rear support for 1967 to 1970 164. Reinforced, boxed and for zero twist in off-road use.	
	2	552139-8	Rear support arm for 1971 to 1974 164. Same as above.	
	2	552127-3	Reinforcement plate for rear upper shock absorber mount.	
4	2	552142-2	Reinforcement plate for support arm to body chassis mount.	



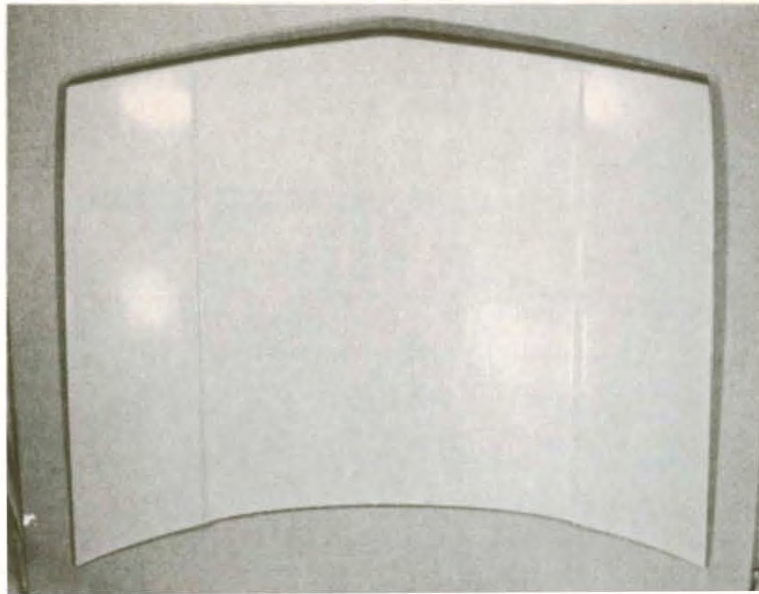


# SECTION 6

## Body Parts



1



2



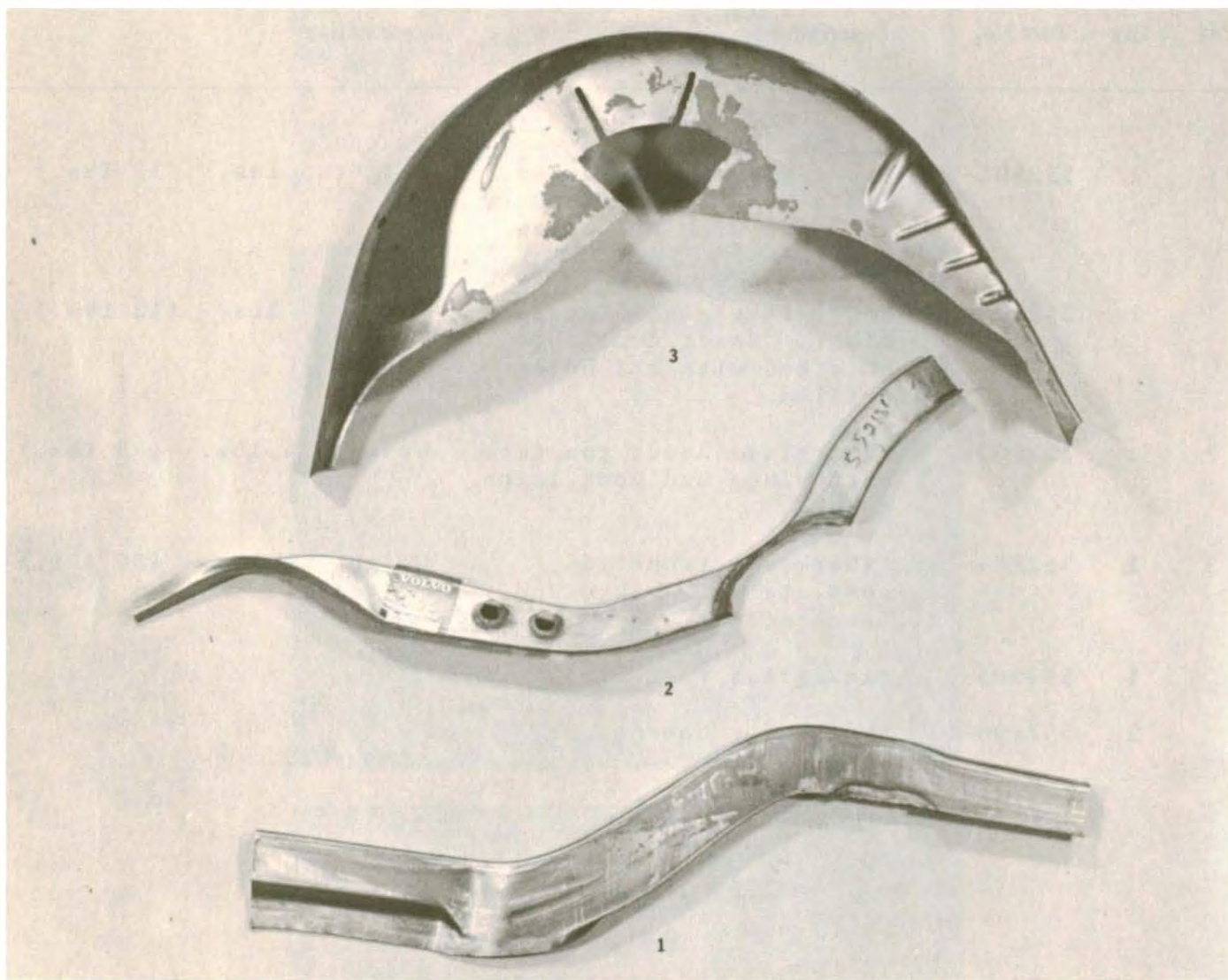
3



**VOLVO***Competition  
Service*

PROD P140 Body Parts	SECTION 6
NO. 1	
DATE May, 1975	

Pos	Qty	Part No.	Description	Specification
1	1	552901-0	Front fiberglass fender, left. Exact duplicate of steel with all holes drilled.	Weight 5 lbs. (12 lbs.)
	1	552902-9	Front fiberglass fender, right. Exact duplicate of steel with all holes drilled.	Weight 5 lbs. (12 lbs.)
2	1	552903-7	Fiberglass hood, complete with hinge and hook latch mounts.	Weight 14 lbs. (35 lbs.)
3	1	552904-5	Fiberglass trunk lid, complete with hinge and latch mounts.	Weight 11 lbs. (30 lbs.)
	1	552905-2	Plexiglass rear window	
	2	552906-0	Spring for hood hinge	



**VOLVO**

Competition Service

Body Parts

SECTION

6

NO.

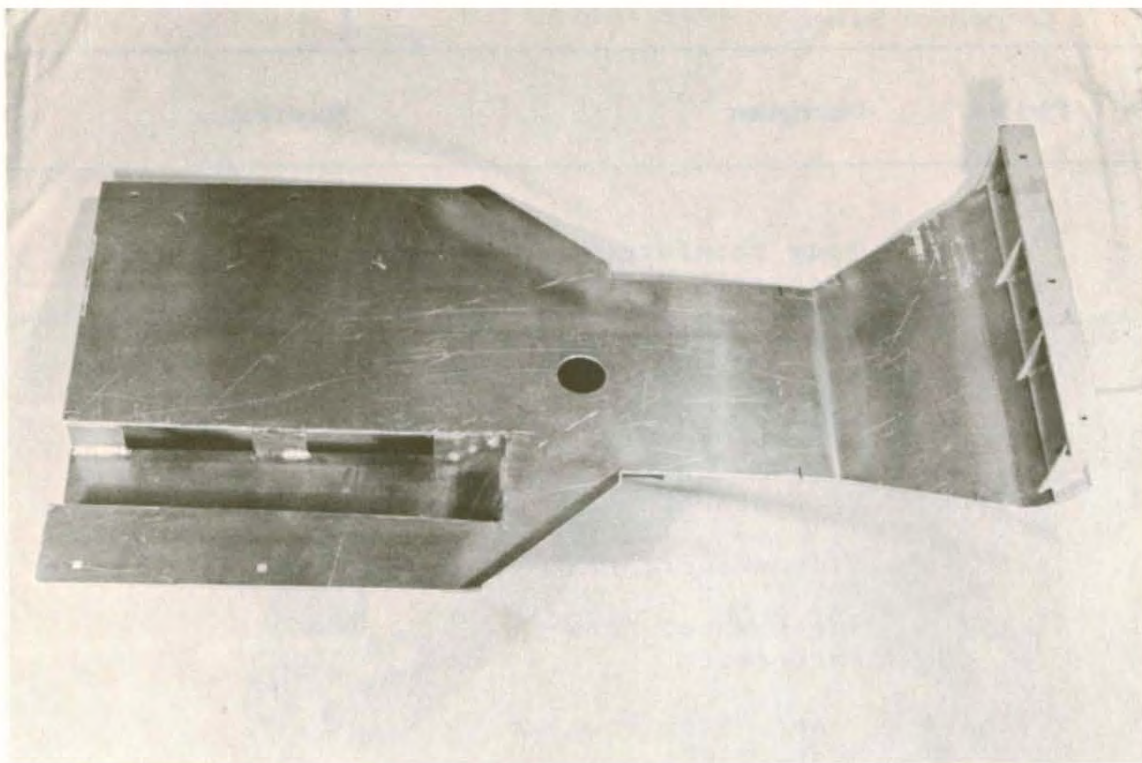
2

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

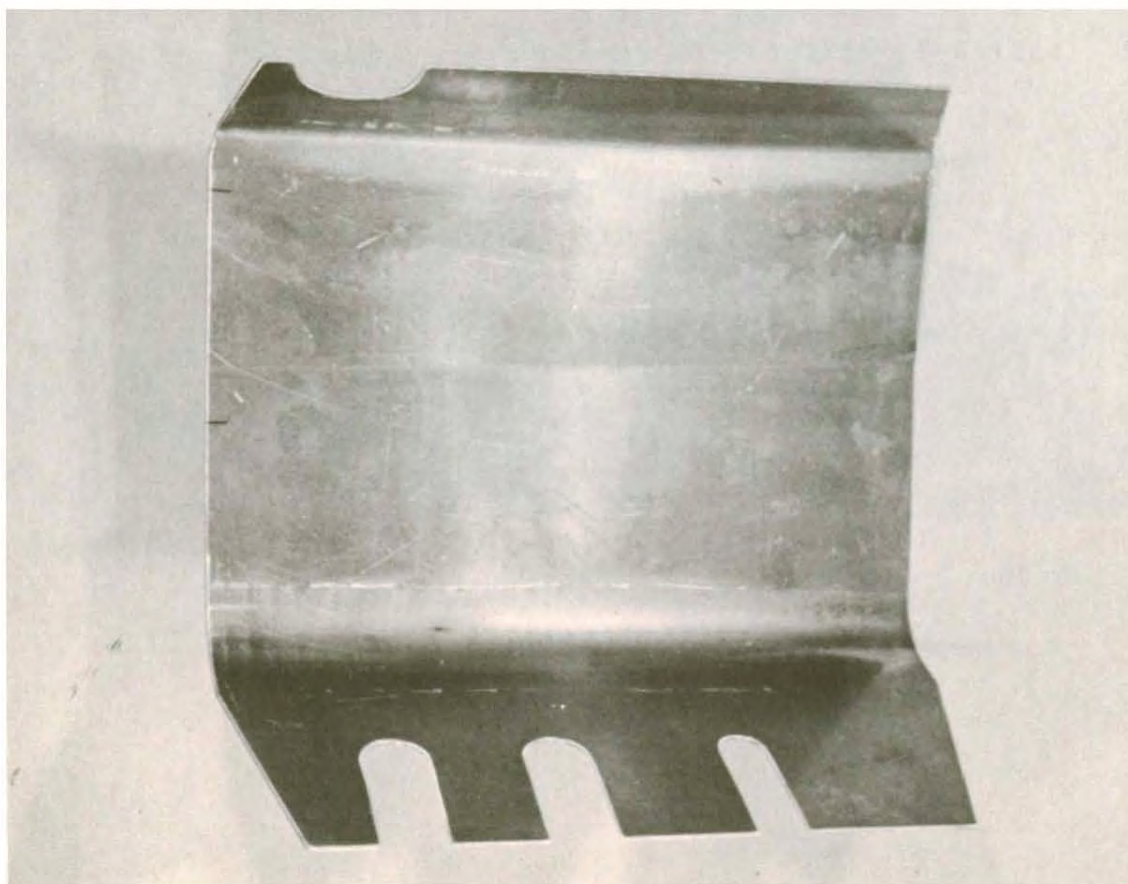
Body reinforcement parts for off-road use.  
Specially designed body members that are  
welded in place to eliminate any fatigue.

1	1	552121-6	Side member, front-left	
	1	552122-4	Side member, front-right	
	1	552181-0	Side member, rear-left	
2	1	552182-8	Side member, rear-right	
	1	552183-6	Inner wheel housing, rear-left	
3	1	552184-4	Inner wheel housing, rear, right	
	2	552127-3	Reinforcement plate for rear upper shock absorber mount	
	2	552142-2	Reinforcement plate for support arm to body chassis mount	





1



2

**VOLVO**

*Competition  
Service*

PROD	SECTION
P130, P140 Off-road Equipment	6
DATE	NO.
May, 1975	3

Pos	Qty	Part No.	Description	Specification
	1	552111-7	Aluminum protection plate, front - P130	Weight 39 lbs.
	1	552112-5	Aluminum protection plate, rear - P130	Weight 24 lbs.
1	1	552113-3	Aluminum protection plate, front - 1967-1970 P140	Weight 44 lbs.
	1	552116-6	Aluminum protection plate, front - 1971-1974 P140	Weight 44 lbs.
	1	552114-1	Aluminum protection plate, front - 1967-1971 P140	Weight 17 lbs.
2	1	552117-4	Aluminum protection plate, rear - 1971-1972 P140 F.I.	Weight 28 lbs.
	1	552118-2	Aluminum protection plate, rear - 1974-1975	Weight 28 lbs.
	1	552221-4	Spacer frame for fuel tank- Some prefer to raise the fuel tank into trunk area rather than add extra weight of rear protection plate - 1967-1973 P140	

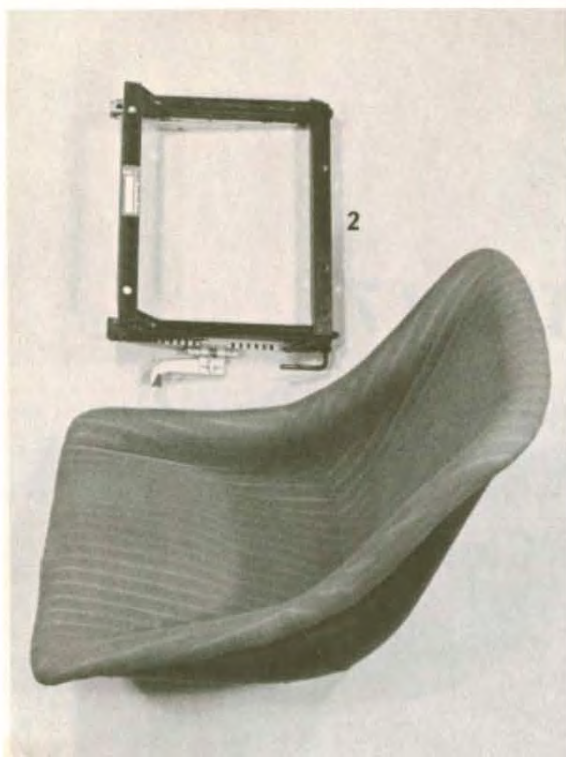






# **SECTION 7**

## **Competition Accessories and Sports Clothing**



1



3



**VOLVO**

*Competition  
Service*

PROD	SECTION
Competition Accessories - Sport Clothing	7
DATE	NO
May, 1975	1

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

1	1	552301-4	Dished driver's seat - Made of fiberglass with padding for light weight.	
2	1	552303-0	Base for driver's seat to allow for tilt and fore and aft adjustment.	
3	1	552305-5	"Recaro" driver's seat - Superior in construction and driver comfort.	

1		552019-2	Tripmaster AIFAB	
---	--	----------	------------------	--

#### FRONT SPOILERS

1		552165-3	120/130 series front spoiler without bumper only.	
1		552166-1	140 series front spoiler - with or without bumper.	
1		552168-7	240 series front spoiler mounted to bumper.	

Spoilers increase gas mileage, top speed  
and road-holding stability. Made of  
unpainted fiberglass. Complete with  
mounting kit and installation instructions.  
Spoilers are delivered unpainted.

1		552306-3	White Volvo sports stripe	
---	--	----------	---------------------------	--

1		552307-1	Black Volvo sports stripe	
---	--	----------	---------------------------	--





1



2

**VOLVO**

Competition Service

Clothing

SECTION

7

NO.

2

Pos	Qty	Part No.	Description	Specification
1	1	552973-0	Rally Jacket	6 years
	1	552974-8	Rally Jacket	8 years
	1	552975-5	Rally Jacket	10 years
	1	552976-3	Rally Jacket	12 years
	1	552977-1	Rally Jacket	14 years
	1	552978-9	Rally Jacket	16 years
	1	552979-7	Rally Jacket	X Small - 34-36
	1	552980-5	Rally Jacket	Small - 36-38
	1	552981-3	Rally Jacket	Medium - 38-40
	1	552982-1	Rally Jacket	Large - 40-42
	1	552983-9	Rally Jacket	X Large - 42-44
	1	552984-7	Rally Jacket	XX Large - 46-48
			The jackets are of rally type, Volvo-blue in color, fitted with a concealed hood and with two white stripes around the left-hand upper arm, two outer pockets with zippers, breast pockets, inside pocket, pen-pocket on left sleeve, concealed plastic holder for license and embroidered Volvo-badge with a laurel embellishment.	
2	1	552930-3	Summer Jacket	Small
	1	552950-8	Summer Jacket	Medium
	1	552989-6	Summer Jacket	Large
	1	552990-4	Summer Jacket	X Large
			Volvo-blue, 100% nylon, without liner. Black and white stripes follow outside length of sleeve. Full length zipper with button sleeve cuff. "Team Volvo" patch sewn on left side.	



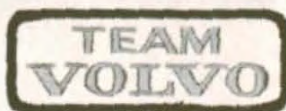
1



2



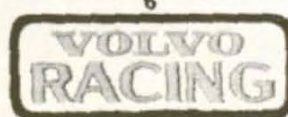
4



5



3



6



<b>VOLVO</b> Competition Service		Clothing	SECTION 7	NO. 3
-------------------------------------	--	----------	--------------	----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

1	1	552995-3	Winter Jacket	Extra Small
	1	552991-2	Winter Jacket	Small
	1	552992-0	Winter Jacket	Medium
	1	552993-8	Winter Jacket	Large
	1	552994-6	Winter Jacket	Extra Large

The jacket is a Volvo-blue winter jacket of 65% Polyester and 35% cotton. The collar is a dark blue fur imitation. Cuffs and waist are of dark blue knitted stretch material. The lining is padded and Volvo emblems are printed on the material. On the left front, the Volvo competition emblem (with the glove and the laurel embellishment) is embroidered in color. The jacket has two side pockets, one inside pocket with button and on the left sleeve one pocket with zipper and two pen-pockets.

#### JACKET PATCHES

2	1	552917-7	Large Racing 4 1/2" x 1 1/2" Blue/White/Black
3	1	552918-5	Volvo Rally 4" x 1 1/2" Blue/White/Black
4	1	552916-9	Super Volvo 3" x 4 1/2" Full color
5	1	552920-1	Team Volvo 4" x 1 1/2" Blue/White/Black
6	1	552919-3	Small Racing 4" x 1 1/2" Blue/White/Black
	1	552921-9	Assortment Pack One of each



1



2

<b>VOLVO</b> Competition Service      Clothing		SECTION	NO.
		7	4

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

White T-shirt with Volvo-badge in blue

1	1	552227-1	T-shirt	130
	1	552228-9	T-shirt	150
	1	552966-4	T-shirt	170
	1	552967-2	T-shirt	4
	1	552968-0	T-shirt	5
	1	552229-7	T-shirt	6

White T-shirt with Volvo-badge in blue  
with the word "RALLY" underneath

2	1	552231-3	T-shirt	130
	1	552232-1	T-shirt	150
	1	552969-8	T-shirt	170
	1	552970-6	T-shirt	4
	1	552971-4	T-shirt	5
	1	552233-9	T-shirt	6

Yellow T-shirt with Volvo-badge in blue

1	1	552937-5	T-shirt	130
	1	552938-3	T-shirt	150
	1	552939-1	T-shirt	170
	1	552940-9	T-shirt	4
	1	552941-7	T-shirt	5
	1	552942-5	T-shirt	6





1



2

<b>VOLVO</b> Competition Service      Clothing		SECTION 7	NO. 5
---	--	--------------	----------

Pos	Qty	Part No.	Description	Specification
Yellow T-shirt with Volvo-badge in blue with the work "RALLY" underneath				
1	1	552944-1	T-shirt	130
	1	552945-8	T-shirt	150
	1	552946-6	T-shirt	170
	1	552947-4	T-shirt	4
	1	552948-2	T-shirt	5
	1	552949-0	T-shirt	6
White T-shirt with picture of Volvo-car				
2	1	552235-4	T-shirt	130
	1	552236-2	T-shirt	150
	1	552237-0	T-shirt	170
	1	552238-8	T-shirt	4
	1	552239-6	T-shirt	5
	1	552240-4	T-shirt	6
Yellow T-shirt with picture of Volvo-car				
2	1	552242-0	T-shirt	130
	1	552243-8	T-shirt	150
	1	552244-6	T-shirt	170
	1	552245-3	T-shirt	4
	1	552246-1	T-shirt	5
	1	552247-9	T-shirt	6





<b>VOLVO</b> Clothing Competition Service	SECTION 7	NO. 6
---	--------------	----------

Pos	Qty	Part No.	Description	Specification
-----	-----	----------	-------------	---------------

			Blue T-shirt with picture of Volvo-car	
1	1	552249-5	T-shirt	130
	1	552250-3	T-shirt	150
	1	552251-1	T-shirt	170
	1	552252-9	T-shirt	4
	1	552253-7	T-shirt	5
	1	552254-5	T-shirt	6

NOTE:

Children's sizes

130 = 6- 9 years  
 150 = 10-13 years  
 170 = 14-17 years (also suitable for ladies'  
 size Medium)

Men's sizes

4 = Small  
 5 = Medium  
 6 = Large



# **SECTION 8**

## **Technical Advice and Specifications**



# VOLVO



*Competition  
Service*

Prod TUNING KIT FOR B20 STAGES I AND II	Section 8
	No 1
Date OCTOBER 1973	

## TUNING INFORMATION

### General

The installation instructions, clearances, settings and tightening torques stated in the VOLVO Service Manual apply on the whole to the tuning kit. This tuning information only concerns deviations from the Service Manual.

## OPERATIONS TO BE CARRIED OUT BEFORE INSTALLING TUNING KIT

### Induction manifold

On the induction manifold, check that the drilled holes for the vacuum connection are free from burrs. Fit plug 422635, see Fig. 2, in the drilled hole on the induction manifold connecting flange against the cylinder head. Fit the stud and nipple for the vacuum connection. If more rapid evacuation of the brake booster is desired, it is recommended that the vacuum connection goes to both the induction manifolds, connection being made at the brake booster in the form of a T-junction.

Fit the control unit bracket on the front induction manifold.

### Exhaust manifold

Remove any unevenness from the exhaust manifold flanges.

### Front carburettor

Remove the front lever. Fit the lever and return spring supplied. The lever is fitted in the reverse direction compared with the rear lever (about 45° downwards-inwards towards the engine when the throttle is closed).

NOTE. When tightening the nut on the end of the throttle spindle, apply a "counterhold" (suitable wrench) to the lever under the nut which is to be tightened. This is to stop the throttle spindles from turning. Secure the nut with the locking tab. Remove the retainer for the choke cable sleeve.

### Rear carburettor

Remove the rear lever. Move the bracket with idling screw from the rear lever to the front lever. Fit the lever and spring supplied to the rear end of the throttle spindle. The lever is fitted in the opposite direction to the front lever.

Secure the nut with the locking tab.

Connect up the fuel hose. Connect up the vacuum hose and ventilation hose. Connect and install the front section exhaust pipe. Clamp the manifold to the flywheel housing or the gearbox.

Fill up with oil and water.  
Start the engine and run it warm.  
Adjust the ignition and valve clearances.

Adjust the carburettors using a Synkrotest unit (idling speed 1,000 r.p.m.).  
Carry out fine adjustment of the air screws until the engine runs evenly. (Unscrew = richer fuel mixture). Idling CO level max. 4.5%.

Stop the engine. Adjust the flanges on the intermediary shaft so that they influence the levers and open the throttle at the same time.

#### Adjustment of full throttle stop

Press the accelerator slowly and carefully all the way down. Tighten the screw on the control bracket against the control shaft arm so that the throttle flap does not bottom in the carburettors. This off-loads the throttle shafts from pedal force. Connect up the choke cable. If necessary, fit a longer cable. Screw the cable sleeve to the rear carburettor. Screw the cable to the choke control on both carburettors. Fit the air cleaner and housing.

### RUNNING IN

If the tuning kit is being installed on a new engine, then the engine should be driven with a certain amount of care during the first period (up to about 2,000 km = 1,200 miles). Allow the engine to operate between 2,500 and 5,000 r.p.m. Avoid lugging in high gear. Avoid fast and hard acceleration. Momentary operation at higher engine speed under light loading (for example in down grades or short periods of acceleration up to about 6,000 r.p.m.) are permitted. Keep an eye on the temperature gauge. The temperature must not be too high.

### ENGINE OIL

The general Volvo recommendations apply to the lubrication of a tuned engine, that is to say the use of multigrade oil of a well-known make.

### TYRES

Vehicles fitted with a tuning kit should also be fitted with braced tread tyres which are approved for speeds of up to 180 km/hour.



Fit the intermediary shaft with flanges between the carburettors. The ball on the intermediary lever is fitted facing forwards. Check that the pins on the flanges engage in the square holes in the levers. Fit stay 460047 to the air cleaner bottom plate on the front of the rubber suspension.

Fit a plain washer on each side of the rubber bushing and a plain washer outside the stay. The other end of the stay is then fitted to the engine mounting, see Fig. 4. Then fit together the air cleaner bottom plate to the carburettors using studs and Nylock nuts. Check that the intermediary shaft has axial clearance. Fit the induction funnels and secure them with lock screws and nuts on the carburettors. Then carefully tighten the air screws until they bottom and then back them off by 3/4 turn. Screw in the idling screws until they touch the lever. Then tighten them a further one and a half turns, see Fig. 3. Check that the throttle returns easily to the idling position. If the throttle does not do this, check the acceleration pump lever and push rod so that there is no leverage between these units. If necessary, adjust the angle to the push rod on the acceleration pump lever.

#### Fuel pump

Fit the fuel hose and the nipple to the fuel pump.

### INSTALLATION OF TUNING KIT

Remove the exhaust manifold, carburettor, air cleaner and front section exhaust pipe from the standard engine.

The cylinder head, camshaft, flywheel, oil cooler, expansion tank, fuel pump, etc., are replaced according to the Service Manual with the exception of the timing gear casing which is to be centred on the belt pulley hub.

In connection with tough driving, it is advisable when installing the tuning kit to replace the clutch by a more robust unit:

clutch	part no. 418930
clutch plate	" " 418871
throw-out bearing	" " 380569

Cut up and remove the washer against which the throw-out bearing moves in the centre of the clutch.

Fit a primary resistor in the ignition system primary circuit between the ignition switch and the positive terminal of the ignition coil. The vacuum governor on the distributor is not to be connected up.

Fit the exhaust manifold. Locate and install the induction manifold and the intermediary flanges. Fit the carburettors with the air cleaner bottom plate. Fit the stay to the engine mounting. Fit the throttle control spindle. Fit the control rod.

#### Adjusting control rod length

Place a feeler gauge of 1.0 mm between the throttle control spindle lever and its idling shoulder on the bracket. Adjust rod length so that the flanges on the intermediary shaft just touch to open the throttle.



## DESCRIPTION AND TECHNICAL DATA CONCERNING TUNING OF B20 TO STAGE II

The tuning of a B20 engine to Stage II (160 h.p.) is for competition operation and is a further development of the Volvo tuning kit giving 140 h.p. (Stage I).

The tuning consists of:

### Modified combustion chambers

The combustion chambers are worked on by hand and polished to a level which provides optimum turbulence and combustion velocity to obtain maximum output. The compression ratio is 11.7:1 which should not be exceeded since this implies a risk of uncontrolled combustion which results in high-speed knocking and burned systems.

### Modified ports

The induction and exhaust ports are modified and polished. The induction manifold is polished and adapted to the cylinder head induction ports so that there is no edge which can cause disturbing turbulence at the transition point. These operations increase the volumetric efficiency of the engine.

### Valves

The intake and exhaust valves are carefully adjusted by grinding and polished.

### Valve springs

In order to obtain maximum spring force on all valves, each valve spring is measured and shims added to provide the correct compressed length.

Compressed length = blocks length of spring + 1 mm clearance + max. valve lift.

### Push rods

The shorter push rods from the B30 engine are to be used.

### Tappets (valve lifters)

The tappets (valve lifters) have their weight reduced, about 30 g/each.

### Camshaft

Type R, hard-chromed. NOTE. For reasons of material strength, this camshaft is to be used together with tappets (valve lifters) part no. 552841.

### Clutch

"Laplander" type.

## Technical data

Output, h.p. at r.p.m. (DIN)	140/6000
Torque, kpm at r.p.m. (DIN)	19.6/4500
Compression ratio	11.0:1
Compression pressure (warm engine)	12-14 kp/cm <sup>2</sup>
Camshaft marking	F
Surface treatment	Hard-chromed
Valve timing with valve clearance of 0.45 mm:	Intake opens 39° before TDC " closes 81° after BDC Exhaust opens 81° before BDC " closes 39° after TDC
Duration with valve clearance of 0.45 mm:	Intake 300° Exhaust 300°
Lift on camshaft lobe	7.5 mm
Valve lift (valve clearance = 0)	approx. 11.2 mm
Valve clearances (warm engine)	Intake 0.40 mm Exhaust 0.45 mm
Fuel pressure	0.15-0.25 kp/cm <sup>2</sup>
Carburettors (2)	Solex 45 DDH-1
components:	
external venturi	C23352 NR 1
internal venturi	36
main jet	185
air jet	175
idling jet	62.5
starting jet	125
On the upper section of the carburettor flange, the carburettors are marked "-71" or with a symbol in the form of a glove, this signifying that the tuning kit satisfies the demands made on exhaust emission control in accordance with European standards. This is a demand with effect from 1971 models.	
Idling speed	approx. 1000 r.p.m.
Spark plugs	Bosch W 240 T 1
Ignition setting (basic setting)	10 - 12° before TDC
Ignition setting at 5000 r.p.m. (centrifugal governor effect completely eliminated)	37 - 39° before TDC
angle	Standard
tightening torque, cylinder head bolts	10.5 - 11.0 kpm
tightening torque, flywheel bolts, part no. 944741	7.5 - 8.0 kpm
Weight of flywheel	8 kg
Exhaust manifold outlet, internal diam.	2"

Components:

throat ring	38
main jet	190
air jet	155
idling jet	62.5
Spark plugs	Bosch W 280 T 13 S Motocraft (Autolite) AE 901
Ignition setting (basic setting)	12 - 14° before TDC
Ignition setting at 5000 r.p.m. (effect of centrifugal governor completely eliminated)	38 - 40° before TDC
Distributor, type	standard B20 A
Tightening torque, cylinder head bolts (Hardened washers, part no. 942058, to be fitted under heads of bolts.)	11.0 kpm
Tightening torque, flywheel (Bolt, part no. 944741 and washer, part no. 942336 to be used)	8.0 kpm
Flywheel weight (standard 10 kg)	3.5
Push rod	part no. 430121
Clutch	" 418930
Clutch plate	" 418871
Throw-out bearing	" 380569
Main bearing seal, rear	standard B30
Cylinder head gasket, 1.2 mm	part no. 824855
Lighter tappet (valve lifter)	" 552841
Camshaft gear, steel	" 875375

In order to ensure that an engine in the Stage II version satisfies the demands concerning exhaust emission control made by the Europe standards, the F-camshaft must be used. This means that the engine does not satisfy the specified exhaust emission control demands when fitted with the R-camshaft.



### Flywheel

The flywheel is made of aluminium alloy and weighs 3.5 kg. It is fitted by using the bolt with part no. 944741 and the washer, part no. 942336.

### Main bearing seal

A rubber packing box is used as a rear main bearing seal and this replaces the felt seal.

### Balancing

The crank shaft, flywheel and clutch are balanced together as one integral unit.

### Cylinder head gasket

The protective edges round the cylinders are reinforced. The protective plate is double-folded on one side.

### Spark plugs

Bosch W 280 T 13 S. A lower heat range than 280 should not be used.

### Camshaft gear

A steel camshaft gear is to be fitted in competition engines.

### Technical data

Output, h.p. at r.p.m. (DIN)	160/6200
Torque, kpm at r.p.m. (DIN)	20.6/4700
Compression ratio	11.7:1
Camshaft marking	R
Surface treatment	hard-chromed
Valve timing at valve clearance of 0.45 mm:	Intake opens 43° before TDC " closes 64° after BDC Exhaust opens 65° before BDC " closes 42° after TDC
Duration with valve clearance of 0.45 mm:	Intake 287° Exhaust 287°
Lift on camshaft lobe	7.6 mm
Valve lift (valve clearance = 0)	11.4 mm
Recommended valve clearances (warm engine)	Intake 0.25 mm Exhaust 0.25 mm
Valve disc diameter	Intake 44 mm Exhaust 35 mm
Carburettors	Solex 45 DDH-1

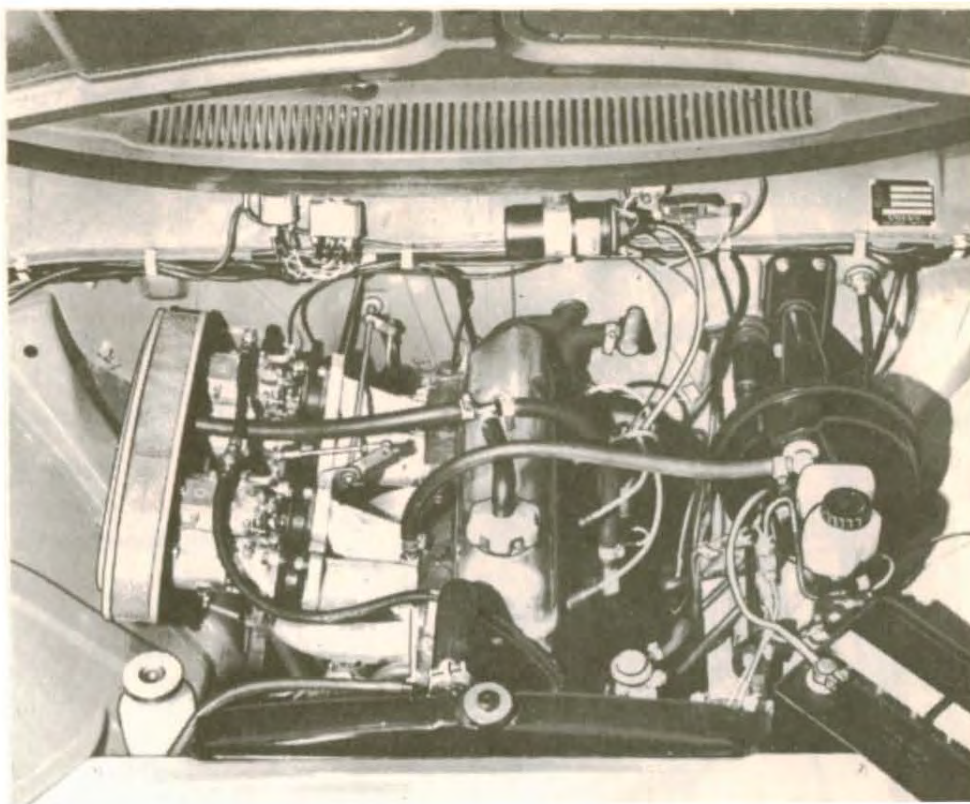


Fig. 1. Engine installed in car

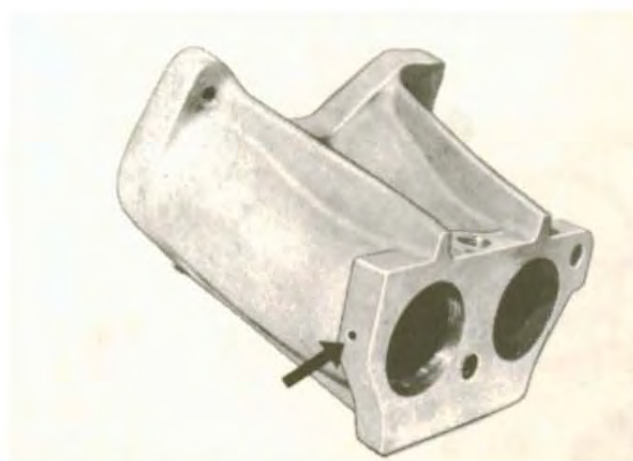


Fig. 2. Induction manifold  
(Location of plug)

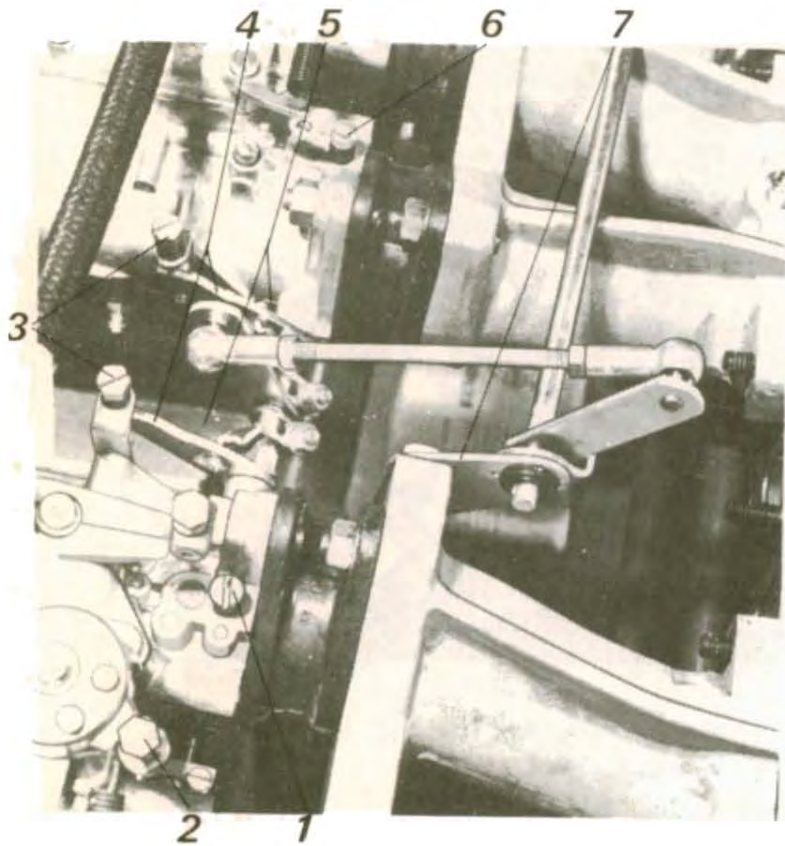


Fig. 3. Carburetors

1. Idling air screw
2. Screw for choke cable
3. Idling speed screw
4. Lever
5. Flange
6. Idling air screw
7. Bracket

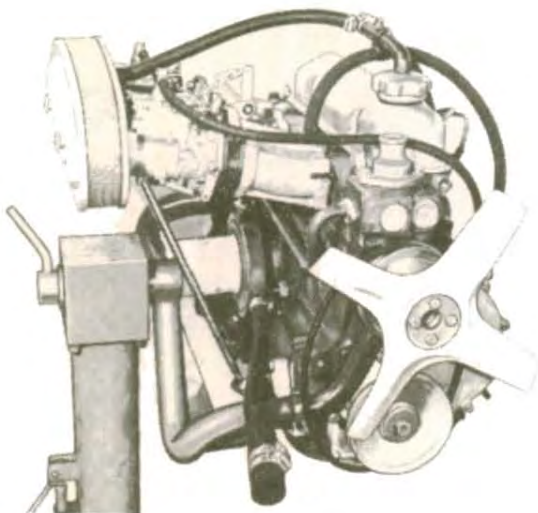


Fig. 4. Tuning kit installed  
(except exhaust pipe)





**VOLVO**  
**Competition Service.**