

Abbreviations of Technical Terms Applicable to Service Literature

Where it is found necessary to use abbreviations in Service Literature the units and symbols adopted are those laid down in British Standards Publications 1991.

A glossary of such terms with their British Standard equivalent is given below for reference purposes.

GLOSSARY OF TERMS

TERM	BRITISH STANDARD	REMARKS
ampere	A	or ampere if confusion may arise
atmosphere	atm	
brake horse power	b h p	
British Thermal Unit	B t u	
centimetre	cm	
Cubic centimetre	cm ³	similarly for millimetre, etc.
cubic inch	in ³	similarly for foot, etc.
foot	ft	
foot pounds per minute (work)	ft lbf/min	
gallon	gal	
gallons per minute	gal/min	similarly for pint, litre, etc.
gramme	g	when referring to gramme mass.
gramme	gf	when referring to gramme force.
hour	h	
inch	in	or inch if confusion may arise
kilogramme	kg	
kilogramme metre (torque)	kgf m	
kilogrammes per square centimetre	kgf/cm	similarly for gramme, etc.
kilometre	km	
litre	l	or litre if confusion may arise.
mile	mile	
millimetre	mm	
miles per gallon	mile/gal	similarly for pint, litre, etc.
miles per hour	mile/h	similarly for kilometre, etc.
minute	min	
ounce	oz	
pint	pt	
pound	lb	when referring to pound mass.
pound	lbf	when referring to pound force.
pounds feet (torque)	lbf ft	
pounds per square inch	lbf/in	similarly for ton, etc.
revolutions per minute	rev/min	
second (time)	s	
shaft horse power	s h p	
square centimetre	cm ²	similarly for millimetre, etc.
square inch	in ²	
ton	ton	
tonne (1000 kg)	t	
volt	V	
yard	yd	similarly for foot, yard, etc.

LUBRICATING OILS

Lubricating oils should meet the requirements of the U.S. Ordnance Specifications MIL-L-46152 or MIL-L-2104C. The lubricating oils for use in Perkins Diesel engines should have a **minimum** Viscosity Index of 80.

Some of these oils are listed below. Any other oils which meet these specifications are also suitable.

MIL-L-46152 OILS

Company	Brand	S.A.E. Designation		
		0°F (-18°C) to 30°F (-1°C)	30°F (-1°C) to 80°F (27°C)	Over 80°F (27°C)
B.P. Ltd.	Vanellus M	10W	20W	30
	Vanellus M		20W-50	20W-50
Castrol Ltd.	Castrol/Deusol CRB	10W	20	30
	Castrol/Deusol CRB	5W/20		
	Castrol/Deusol CRB	10W/30	10W/30	10W/30
	Castrol/Deusol CRB		20W/50	20W/50
A. Duckham & Co. Ltd.	Fleetol HDX	10	20	30
	Q Motor Oil		20W/50	20W/50
	Fleetol Multi V		20W/50	20W/50
	Fleetol Multilite	10W/30	10W/30	10W/30
	Farmadcol HDX		20	30
Mobil Oil Co. Ltd.	Delvac 1200 Series	1210	1220	1230
	Delvac Special	10W/30	10W/30	10W/30
Shell	Rotella TX	10W	20W/20	30
	Rotella TX		20W/40	20W/40

MIL-L-2104C OILS

Company	Brand	S.A.E. Designation		
		0°F (-18°C) to 30°F (-1°C)	30°F (-1°C) to 80°F (27°C)	Over 80°F (27°C)
B.P. Ltd.	Vanellus C3	10W	20W/20	30
Castrol Ltd.	Castrol/Deusol CRD	10W	20	30
	Agricastrol HDD	10W	20	30
A. Duckham & Co. Ltd.	Fleetol 3	3/10	3/20	3/30
	Farmadcol 3	3/10	3/20	3/30
Esso Petroleum Co. Ltd.	Essolube D-3HP	10W	20W	30
Mobil Oil Co. Ltd.	Delvac 1300 Series	1310	1320	1330
Shell	Rimula CT	10W	20W/20	30
	Rotella TX	10W	20W/20	30
	Rotella TX		20W/40	20W/40

Where oils to the MIL-L-46152 or MIL-L-2104C specification are not available, then oils to the previous specification MIL-L-2104B may continue to be used providing they give satisfactory service.

The above specifications are subject to alteration without notice.

Approved Service Tools

Available from V. L. Churchill & Co. Ltd., Daventry, Northamptonshire, England

PD 1C Valve Guide Remover and Replacer

Engine Type: All

With this tool, all valve guides can be removed and replaced provided puller bars are available.

PD 1C-1 Puller Bars

Engine Type: All

Two bars are supplied for use with PD 1C to suit 5/16 in and $\frac{3}{8}$ in i/d valve guide bores.

PD 1C-2 Valve Guide Replacing Stop

Engine Type: 4.99 4.107 4.108

When the valve guide is replaced using one of these stops, it will ensure that the guide protrudes the correct amount above the top face of the cylinder head.

PD 1C-4 Valve Guide Replacing Stop

Engine Type:

P3 P3.144 P3.152 3.152 4.192 4.203 P4 P6
6.288 6.305

Remarks: See PD 1C-2

PD 1C-5 Valve Guide Replacing Stop

Engine Type: V8.510

Remarks: See PD 1C-2

PD 1C-6 Valve Guide Replacing Stop

Engine Type: 6.354

Remarks: See PD 1C-2

PD 1C-7 Valve Guide Replacing Stop

Engine Type: 4.154

Remarks: See PD 1C-2

38 U3 Piston Assembly Ring

Engine Type: All

This is an expandable piston assembly ring for Std. and oversize pistons on all engine types.

PD 41B Piston Height and Valve Depth Gauge

Engine Type: All

For checking piston heights and valve depths.

PD 155A Small Adjustable Puller

Engine Type: All

Can be used with suitable adaptors to remove water pump pulley, oil pump drive gears and camshaft gear.

PD 155A-1 Small Adjustable Puller Adaptors

Engine Type:

R6 P3.144 3.152 4.192 4.203

Removes water pump pulley only on

6.305 L4 4.270 4.99 4.107 4.108

Removes water pump pulley and camshaft gear on

6.354 4.154 4.212 4.236 4.248

PD 155B-2 Small Adjustable Puller Adaptors

Engine Type: P3 P4 P6

To remove low position water pump pulley.

PD 155A-4 Small Adjustable Puller Adaptor

Engine Type:

P3.144 3.152 4.192 4.203

Removal of oil pump gear

4RL Tension Wrench

Engine Type: All

$\frac{3}{4}$ in square drive 150-400 lbf ft

No. 13 Tension Wrench

Engine Type: All

$\frac{1}{2}$ in square drive 50 to 170 lbf ft

PD 150 Cylinder Liner Remover and Replacer

Engine Type:

6.354 4.212 4.236 4.248 3.152 D3.152 4.203
D4.203 6.305

PD 150-1A Adaptors for PD 150

Engine Type:

3.152 D3.152 4.203 4.212 4.236 6.305 6.354

PD 150-5 Adaptors for PD 150

Engine Type:

4.107 4.108

PD 150-6 Adaptors for PD 150

Engine Type: V8.510

The replacer pad to be used with PD 150-8 when crankshaft is in position.

PD 150-7 Adaptors for PD 150

Engine Type: 4.248 6.372

PD 150-8 Adaptors for PD 150

Engine Type: V8.510

Used with PD 150-6 when crankshaft is in position.

PD 150-10 Adaptors for PD 150

Engine Type: 4.154

316X Valve Seat Cutter Handle

Engine Type: All

This tool is required for the operation of all cutters and pilots.

316-10 Valve Seat Cutter Pilot

Engine Type:

P3 P3.144 3.152 4.107 4.99 4.108 4.154

4.192 4.203 P4 P6 6.288 6.305

This pilot is suitable for all guides that have a nominal 5/16 in i/d bore.

316-12 Valve Seat Cutter Pilot

Engine Type:

L4 4.270 4.212 4.236 4.248 6.354 V8.510

This pilot is suitable for all guides having a nominal $\frac{3}{8}$ in i/d bore.

PD 316-125 Valve Seat Cutter Pilot

Engine Type:

4.212 4.236 4.248

This pilot is for valve bores which have been reamed 0.015 in oversize.

PD 316-130 Valve Seat Cutter Pilot

Engine Type :

4.212 4.236 4.248

This pilot is for valve bores which have been reamed 0.030 in oversize.

PD 137 Valve Bore Reamer (0.015 in oversize)

Engine Type :

4.212 4.236 4.248

This reamer is only suitable for guideless cylinder heads.

PD 138 Valve Bore Reamer (0.030 in oversize)

Engine Type :

4.212 4.236 4.248

This reamer is only suitable for guideless cylinder heads.

PD 317-23 Valve Seat Cutter Exhaust**PD 317-26 Valve Seat Cutter Inlet****PD 317-G22 Glaze Breaker Exhaust****PD 317-G25 Glaze Breaker Inlet**

Engine Type :

P3 P3.144 3.152 4.192 4.203 P4 P6 6.288 6.305

The above cutters have been designed to cut seats to the correct angle and at the same time reduce seat width. It is strongly recommended that the glaze breakers be used first as this will greatly reduce the chattering of the cutters.

PD 317-40M Valve Seat Cutter Inlet

Engine Type : D3.152

For 35° seats.

PD 317-35M Valve Seat Cutter Exhaust

Engine Type : D3.152

For 35° seats.

PD 317-25A Valve Seat Cutter Exhaust**PD 317-29 Valve Seat Cutter Inlet****PD 317-G30 Glaze Breaker Exhaust and Inlet**

Engine Type :

L4 4.270

Remarks : See PD 317-23.

PD 317-30 Valve Seat Cutter Inlet

Engine Type :

4.212 4.236 4.248 6.354 D4.203 D3.152 4.154 V8.510

Remarks : See PD 317-23.

PD 317-30 Valve Seat Cutter Exhaust

Engine Type :

D4.203 D3.152 V8.510

Remarks : See PD 317-23.

PD 317-G30 Glaze Breaker Exhaust and Inlet

Engine Type :

6.354 4.212 4.236 4.248 D4.203 D3.152 4.154 V8.510

Remarks : See PD 317-23

PD 317-18 Valve Seat Cutter Exhaust**PD 317-22 Valve Seat Cutter Inlet****PD 317-G19 Glaze Breaker Exhaust****PD 317-G22 Glaze Breaker Inlet**

Engine Type :

4.99 4.107 4.108

Remarks : See PD 317-23.

PD 317-22 Valve Seat Cutter Exhaust

Engine Type : 6.354 4.212 4.236 4.248

Remarks : See PD 317-23.

PD 317-37M Valve Seat Cutter Exhaust

Engine Type : 4.154

Remarks : See PD 317-23.

FC9900 Atomiser Tester

Engine Type : All

This is a portable tester fitted with a paper filter element.

7066 Circlip Pliers

Engine Type : All

Two types of points are available. $\frac{1}{2}$ in shaft size. $\frac{1}{2}$ in — 1 in "B" shaft size 1 in — 3 in.

335 Connecting Rod Alignment Jig

Engine Type : All

Enables a quick check to be made on the alignment of connecting rods — various adaptors are required as follows :—

PD 336-102 Adaptor

Engine Type :

All.

This adaptor is fitted into the big end bore when checking alignment.

6118B Valve Spring Compressor

Engine Type : All

This valve spring compressor has been designed to remove valve springs without removing the cylinder head, providing the adaptors are available.

PD 6118-1 Valve Spring Compressor Adaptor

Engine Type :

4.99 4.107 4.108 4.154

The adaptor is fitted to the rocker shaft securing studs.

PD 6118-3 Valve Spring Compressor Adaptor

Engine Type :

P3.144 3.152 4.192 4.203 L4 4.270 V8.510

Remarks : See PD 6118-1.

PD 6118-4 Valve Spring Compressor Adaptor

Engine Type :

6.354 4.212 4.236 4.248

Remarks : See PD 6118-1.

PD 130A Fuel Pump Allen Screw Wrench

Engine Type :

4.192 4.203 4.99 4.107 4.108

Used to remove the Allen Screw securing the fuel injection pump.

PD 141 Timing Case Oil Seal Fitting Tool

Engine Type : V8.510

6400A Crankshaft Fillet Radii Rolling Tool

Engine Types :

P4 4.192 4.203 P6 6.288 6.305 4.270

For cold rolling of fillet radii on certain crankshaft main journals.

6400A-1 Adaptor Set

6400A-31 Adaptor Set

For use with the above.

PD 140 Camshaft Bush/Thrust Collar Remover

PD 140-1 Adaptor for use with above

Engine Type : V8.510

Removes and replaces camshaft bush.

PD 140-2 Adaptor for use with PD 140

Engine Type : 6.354

Removes fuel pump drive thrust collar.

PD 143 Valve Seat Insert Rolling Tool

PD 143-1 Adaptor for use with above

Engine Type : V8.510

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