DIRECTORATE GENERAL OF BORDER ROADS

GENERAL MAINTENANCE INSTRUCTION NO.101
ON
TECHNICAL DATA
OF
STEYR-DAIMLER-PUCH AG 83TK

Introduction

1. Steyr-Daimler-Puch AG 83TK snow clearing equipment is a self propelled machine and has an exrtremely high PTO power out-puts. The 6 cyls turbo engine fitted to the Steyr 83TK has a power out-put of 260 DIN (280 HP) and stand out because it is high pulling power at all altitudes with its favourable fuel consumption. The Steyr-Daimler-Puch AG 83TK is suitable for :-

(a) Trench cutting, drainage work and slide clearance,
(b) Tunnel washing equipment,
(c) Upkeep of air-ports and open spaces,
(d) High-output snow clearance work.

2. Steyr-Daimler-Puch AG 83TK is manufactured by M/S Steyr-Daimler-Puch AG Austria. Four stroke 6 cylinders diesel engine in I (in line) shape fitted on this eqpt is having inter cooler hydrostatic adjusting pump and hydraulic operated gear shift arrangements.

Aim

3. To publish technical specifications for inspection, repairs and overhaul of the eqpt, while in operation for optimum and effective utilization.

Action by

4. Technical data of Steyr-Daimler-Puch AG 83TK fitted with four stroke 6 cylinders diesel engine in I (in line) shape having hydrostatic transmission pump with pre-selectage range for forward and reverse is tabulated in Appendix ‘A’ to this instruction. This information may be desiminated to tradesmen.

(AJS KHALSA)
SE (E&M) SG
Dir Tech

Dated : 08 Jan 90 For Dir General
Border Roads

Appendix 'A' to
GMI No. 101

GENERAL TECHNICAL DATA ENGINE – 8320 AND 83TK INTER COOLER

Engine			WD 615.85 WD 615.87
Output	KW (HP DIN)		206 (280)
At a speed of	r.p.m		2400
Speed at idle motion	r.p.m		700+100
Working method engine with exhaust gas charged air			Diesel four stroke Direct injection, Turbocharger and cooling.
Maintenance at engine speed 1600 r.p.m	Nm(kpm)		1110 (112) /
Number of cylinders			6 in line
Bore/stroke	mm		126/130
Total piston displacement	cm3		9726
Mean piston speed	m/sec		10.4
Compression ratio			16:1
Injection sequence			1 – 5 – 3 – 6 – 2 – 4
Valve timing	Intake valve opens.		2° before T.D.C

(Control valve closes. 35° after B.D.C

Clearance 1 mm at Exhaust valve opens 49° before B.D.C.
Cold engine) closes 5° after T.D.C.

Valve clearance (engine cold)
Intake valve _____ 0.3 mm
Exhaust _____ 0.4 mm
Engine lubrication system _____ Pressure lubrication with
Oil cooler.
Fuel consumption _____ 25.2 lit per hour at 2000 r.p.m
Oil pressure _____ at lease 0.5 bar idling
Oil filter _____ main circuit fine filt
Engine cooling system _____ Thermostat controlled double
Circuit water cooling with centri-
fugal pump.

Operating temperature _____ 80 - 95° C
Of radiator coolant
Type of radiator _____ Water-tube-cooler with long-term
Fillings (frost protection down to
20° C, corrosion protection)
Air cleaning _____ Dry-air filter with safety care and
Precyclone ; electric maintenance
Indicator.
Fuel filter _____ Double-filter with prefilter and
.fine filter element

Injection pump _____ BOSCH in-line injection pump 6

P 110A 721 RS 3101 with governor RSV 400 – 1200 P1A 527 injection timer BP/SP 500 – 1000 Z 5R feed pump FP/K 22P 16 presave valve 2 418 552 027.

Nozzle holder _____ Boach KBEL 132 P 31 “85”

Injection Nozzle/ _____ DLLA 150 P 167/2 430 422 011
Indication protection

Injection pressure _____ 225 + 8 bar
Delivery start at _____ 16° ± 1° Before T.D.C

Electrical system

Dynamo _____ three-phase generator with

installed transistor regulator are overload protection 8320/8320 at 1 piece 14 V, 66 A = 770 Watt (Bosch) 83TK : 3 pieces 14 V 6½ = 910 W/total capacity 2730 W

Voltage _____ 12V
Starting aid _____ injection pump – raised delivery

amount and flame starting system.

Battery _____ 2 pieces 12 V,120 Ah,

parallel = 240 Ah

Power transmission _____ by hydrostatic adjusting pump

hydraulic drive engine on gear shift mechanism.

Gear shift _____ Hydrostatic infinitely variable by

hand lever for forward drive and reversing, mechanic claw shift mechanism of gear shift mechanism.

Gears	_____	forward : 3 gears Reverse : 3 gears
Driving speed variable adjustment for	_____	Infinitely Forward driving and reversing.
- 7 Km/h		Range 1 0
- 14 Km/h		Range 2 0
- 20 Km/h		Range 3 0
- 10 Km/h		Range 1 0
- 17 Km/h		Range 2 0
- 30 Km/h		Range 3 0
		Alternatively, standardized final speed.
Differential lock drive axle.	_____	Self-locking differential in
Type all-wheel drive locking	_____	ZF-steering axle with self –
		Differential
All – Wheel shift chargeable under mechanism	_____	Via multiple – clutch Load
P.t.o., shaft (cab-side) standard revolution	_____	1 p.t.o.shaft stub for

Of 1000 r.p.m.section : F3 DIN 9611

P.t.o.shaft shift _____ Shifting by clamping of the V-belt

(Powerband) with hydraulic cylinder, control of switch on dashboard.

P.t.o. shaft standard revolution at engine Speed (in %) of _____ 2328 r.p.m (97%)

P.t.o. shaft revolution at engine speed max _____ 1031 r.p.m

P.t.o. shaft revolution at engine speed max _____ full engine output transferable.

Sense of rotation _____ left (as seen to the stub)

P.t.o. shaft reversing gear (optional) _____ 2 p.t.o. shaft stub, clockwise and

Anticlockwise.

Tyres _____ The eqpt is fitted with ballastotable front

tyres of size 12.5/80 – 18 and the recommended tyre pressure is 1.5 bar, the rear tyres 184/30 should have tyre pressure of 1.1 bar. Water ballasting of driving wheels should be with ¾ in filling of water with anti freeze mixture.

Vehicle weight in Kg

Dead weight _____ 5800

Front axle load (Steering axle load)

Rear axle load (Driving axle load)

Perm. Total weight _____ 8300

Perm. Front axle load _____ 2500
(Steering axle load)

Perm, rear axle load _____ 6360[3]
(Driving axle load)

Dead weight with full tank and comfort cab (83TK with double gear) without ballet weight.

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