

IAME

Gazelle



ENGINE OVERHAULING MANUAL




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1 - EASY-KART 62 ENGINE DISASSEMBLY

	<u>OPERATION</u>	<u>TOOLS REQUIRED</u>
1.	INSERT 2 SCREWS M8X60 ON BOTTOM OF CRANKCASE TO POSITION MOTOR ON BENCH.	-VICE ON BENCH (TOOL AS PER DRAW. S725/3)
2.	REMOVE EXHAUST PIPE AND EXHAUST GASKET (see Fig.1). -2 EXHAUST NUTS M6 -2 WASHERS	-12 POINT WRENCH 10mm 
3.	REMOVE CLUTCH: - REMOVE CLUTCH COVER 3 SCREWS TCEI M6 (see Fig.2). - REPLACE SPARKPLUG WITH SPECIAL PISTON FITTING (see Fig.4) ROTATE CRANKSHAFT UP TO TDC SO THAT CRANKSHAFT DOES NOT ROTATE WHEN REMOVING THE 10mm NUT (see Fig.3).	- 5mm ALLEN - PISTON FITTING: P.N. 10271 - 12 POINT WRENCH - 17mm - CLUTCH WRENCH: P.N. 10270 - 12 POINT WRENCH - 24mm - 12 POINT WRENCH - 19mm - CLUTCH PULLER: P.N. B-55614-C - 12 POINT WRENCH - 10mm  

-REMOVE 10mm NUT
(see Fig.4)

-REMOVE OUTER WASHER, ROLLER CAGE
CLUTCH DRUM AND INNER WASHER



Fig.4

-REMOVE THE PISTON FITTING AND USING
THE CLUTCH WRENCH, REMOVE THE
CLUTCH FIXING NUT (see Fig. 5)



ATTENTION:
TURN CLOCKWISE AS NUT HAS LEFT
THREAD

-REMOVE SAFETY WASHER



Fig.5

- APPLY CLUTCH PULLER ON CLUTCH
AND REMOVE CLUTCH WITH 19mm
SOCKET (see Fig. 6)

- REMOVE KEY FROM SHAFT SEAT.



Fig.6

- REMOVE THE START RING FROM THE
CLUTCH
3 SCREWS M6 (see Fig. 7)



Fig.7

4.

REMOVE THE IGNITION:

- 4mm ALLEN
- 5mm ALLEN
- 13mm HEXAGON RING WRENCH
- PISTON FITTING CODE 10271

-REMOVE THE IGNITION COVER
3 SCREWS M6X18 (see Fig.8)

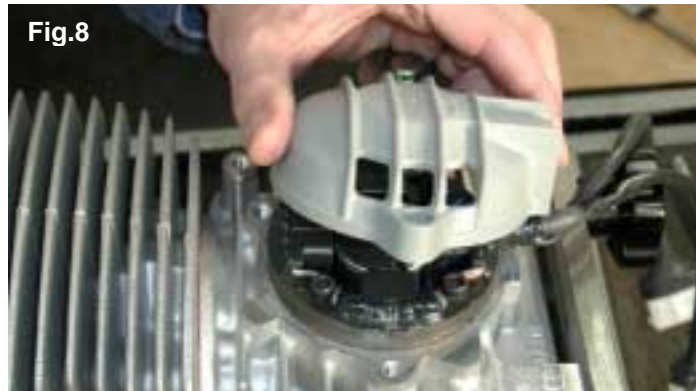


Fig.8

- **REMOVE STATOR**
4 SCREWS M5X25 (vedi Fig.9)
- **INSTALL THE PISTON FITTING AND REMOVE SELF LOCKING NUT M8 WITH KNURLED WASHER.**



Fig.9

-REMOVE ROTOR (see Fig.10)



Fig.10

5.

- REMOVE THE STARTER ASSEMBLY
4 SCREWS M6X45 (vedi Fig.11)

- 5mm ALLEN



Fig.11

- REMOVE STARTER FROM SUPPORT
1 SCREW M6X16
1 SCREW M6X20 (see Fig.12/13).



Fig.13

- REMOVE THE COUNTERSHAFT SUPPORT COVER
3 SCREWS M6X20 (see Fig.14).








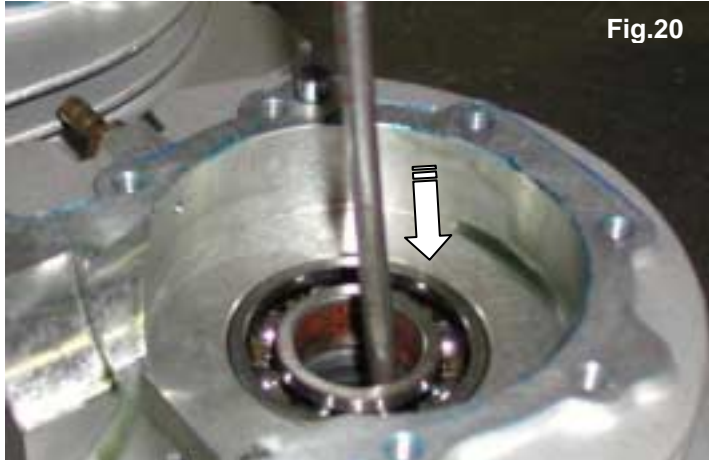

Fig.14

- EXTRACT THE COUNTERSHAFT FROM THE SUPPORT (see Fig.15).



Fig.15

<p>6.</p>	<p>REMOVE THE HEAD</p> <p>-LOOSEN NUTS BY ½ TURN (CROSS PATTERN DISASSEMBLY) AND THEN REMOVE 4 NUTS M8 4 WASHERS</p>	<p>- 13mm SOCKET T TYPE</p>
<p>7.</p>	<p>REMOVE CYLINDER (see Fig.16).</p>	 <p>Fig.16</p>
<p>8.</p>	<p>REMOVE CYLINDER GASKET</p>	
<p>9.</p>	<p>REMOVE CIRCLIPS FROM PISTON (see Fig.17)</p> <p> ATTENTION: <u>DO NOT SCRATCH PISTON OR CIRCLIP SEATS.</u></p>	<p>-SCREWDRIVER WITH ROUNDED EDGES</p>  <p>Fig.17</p>
<p>10.</p>	<p>REMOVE PISTON PIN, PISTON AND CAGE USING THE PISTON PIN PUNCH (see Fig18).</p>	<p>-PISTON PIN PUNCH P.N. 10202</p>  <p>Fig.18</p>

<p>11.</p>	<p>OPENING THE CRANKCASE:</p> <p>-REMOVE 7 FIXING SCREWS (see Fig.19) 4 SCREWS M6X40 3 SCREWS M6X50</p> <p>-OPEN THE CRANKCASE (USING A PLASTIC MALLET) AVOID CRANKSHAFT FROM FALLING</p> <p>- REMOVE OIL SEALS , USE A SCREWDRIVER (see Fig.20)</p> <p>- REMOVE BEARINGS (IF NECESSARY) HEAT HALFCRANKCASES AT 70°C USE PRESS OR SPECIAL TOOL AS PER DRAW. S725/3 (see Fig.21).</p> <p>- REMOVE SHIMS</p>	<p>- 5mm ALLEN -PLASTIC MALLET</p>  <p>Fig.19</p>  <p>Fig.20</p>  <p>Fig.21</p>
<p>12.</p>	<p>OPEN CRANKSHAFT ONLY WITH SPECIAL TOOL</p> <p>⚠ ATTENTION: <u>THIS OPERATION CAN BE PERFORMED ONLY BY AN AUTHORIZED SERVICE CENTER</u></p>	

2 – ENGINE CRANKSHAFT DISASSEMBLY/ ASSEMBLY





ATTENTION:

THE DISASSEMBLY/ASSEMBLY OPERATIONS ON THE ENGINE CRANKSHAFT, MUST BE PERFORMED ONLY BY AN AUTHORIZED SERVICE CENTER USING THE SPECIALLY DESIGNED TOOLS. USE OF UNFITTED TOOLS OR OPERATIONS PERFORMED BY UNSKILLED PERSONNEL MAY DAMAGE THE CRANKSHAFT BEYOND REPAIR.

TOOLS DESCRIPTION	P.N.
CRANKSHAFT ASSEMBLY KIT	10110-C
CRANKPIN BUSH (IN 10110-C)	10150
CRANKSHAFT DISASSEMBLY KIT INCLUDES:	10100-C3
-CRANKSHAFT SUPPORT / DISASSEMBLY TOOL	10100
- CRANKSHAFT PLATE/ DISASSEMBLY TOOL (62cc)	10103
- CRANKSHAFT INSERT (62cc)	10108
- CRANKPIN PUSHER	10107

2.1 – CRANKSHAFT DISASSEMBLY OPERATIONS


	<u>OPERATION</u>	<u>TOOLS REQUIRED</u>
1.	PLACE THE DISASSEMBLY TOOL UNDER THE PRESS (P.N. 10100-C3).	-5 MeT PRESS -CRANKSHAFT DISASSEMBLY KIT P.N.10100-C3
2.	PLACE THE CRANKSHAFT IN THE TOOL INSERTING THE CRANKSHAFT PLATE (P.N. 10103) BETWEEN THE CRANKSHAFT HALVES (see Fig.1).	 <p style="text-align: right;">Fig.1</p>
3.	INSERT THE CRANKSHAFT INSERT (P.N. 10108) AND USING THE CRANKPIN PUSHER (P.N. 10107) PRESS THE CRANKPIN OUT. (see Fig.2).	 <p style="text-align: right;">Fig.2</p>




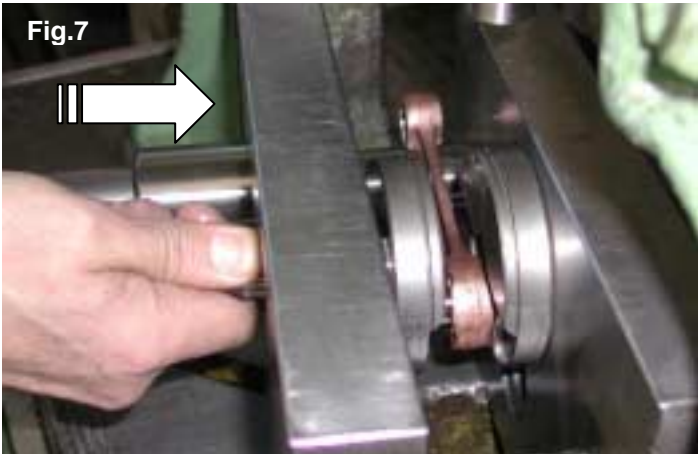
<p>4. DISASSEMBLE THE COMPLETE CON-ROD WITH WASHERS REPEAT THE OPERATIONS TO EXTRACT THE CRANKPIN FROM THE OTHER HALF CRANKSHAFT(see Fig.3).</p>	 <p style="text-align: right;">Fig.3</p>
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BEFORE REASSEMBLING, WASH ALL PARTS WITH KEROSENE

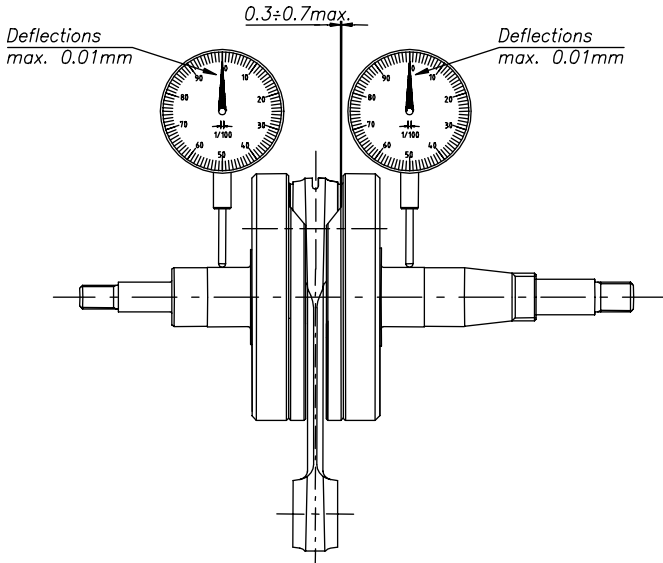

<p>a) CHECK STATUS OF CON-ROD TOP AND BOTTOM IF OVALIZATION EXCEEDS 0.015mm, REPLACE CON-ROD</p>	<p>- 0.01 CENTESIMAL MICROMETER (21/50) - 0.001 BORE GAUGE WITH CHECK RING Ø 24 AND Ø16</p>
<p>b) CHECK STATUS OF CRANKPIN VISUAL CHECK – <u>REPLACE IF NECESSARY BUT ALWAYS AFTER MAX. 8 WORKING HRS.</u></p>	
<p>c) CHECK STATUS OF ROLLER CAGE (BIG END) VISUAL CHECK – REPLACE IF NECESSARY BUT ALWAYS <u>AFTER MAX. 8 WORKING HRS.</u></p>	
<p>d) CHECK STATUS OF CRANKSHAFT HALVES <u>REPLACE IF BEARING SEAT IS BELOW 0.030 VS. NEW</u></p>	
<p style="text-align: center;">FOLLOW ATTACHED TABLE FOR MAX. MATCHING PLAY FOR CON-ROD, CRANKPIN, CAGE</p>	

2.2 - CRANKSHAFT ASSEMBLY OPERATIONS

	<u>OPERATION</u>	<u>TOOLS REQUIRED</u>
1.	PLACE THE CRANKSHAFT ASSEMBLY TOOL (P.N. 10110-C) UNDER THE PRESS, VERTICALLY	- 5 MeT PRESS - CRANKSHAFT ASSEMBLY KIT: P.N. 10110-C
2.	PLACE THE CRANKSHAFT HALF INTO THE ASSEMBLY TOOL	
3.	OIL CRANKPIN AND CRANKPIN HOLE ON CRANKSHAFT HALF	
4.	PLACE CRANKPIN WITH CRANKPIN BUSH (P.N. 10150) ON CRANKSHAFT HALF (see Fig.1).	 <p style="text-align: right;">Fig.1</p>
5.	BRING UPPER PLATE OF TOOL IN CONTACT WITH CRANKPIN (see Fig.2).	 <p style="text-align: right;">Fig.2</p>
6.	PROGRESSIVELY PRESS UNTIL CRANKPIN IS COMPLETELY DRIVEN IN (see Fig.3).	 <p style="text-align: right;">Fig.3</p>


<p>7. EXTRACT BUSH FROM CRANKPIN AND PUT TOOL IN HORIZONTAL POSITION (see Fig.4).</p>	 <p>Fig.4</p>
<p>8. INSERT ON CRANKPIN: (OIL CRANKPIN) -CON-ROD WITH ROLLER CAGE (see Fig.5)</p> <p>⚠ ATTENTION: <u>ROLLERS ARE FREE IN THE CAGE.</u> <u>PREVENT THE ROLLERS FROM FALLING</u> <u>FROM THE CAGE WHEN INSERTING ON</u> <u>CRANKPIN.</u></p>	 <p>Fig.5</p>
<p>9. PLACE SECOND CRANKSHAFT HALF IN THE SEAT OF THE COUNTERPLATE (see Fig.6).</p>	 <p>Fig.6</p>
<p>10. BRING THE TWO PLATES CLOSE UNTIL THE TOOL IS HAND PRESSED (see Fig.7).</p>	 <p>Fig.7</p>

11.	OIL CRANKPIN AND CRANKPIN HOLE ON CRANKSHAFT HALF.	
12.	PUT TOOL IN VERTICAL POSITION (see Fig.8).	 <p>Fig.8</p>
13.	PROGRESSIVELY PRESS THE TWO HALF CRANKSHAFT HALVES TOGETHER	
14.	OPEN THE TOOL. PUT IT IN HORIZONTAL POSITION AND EXTRACT THE CRANKSHAFT.	
15.	CHECK THE AXIAL PLAY OF THE CONROD (see Fig.9). IT MUST BE MIN. 0.3mm / MAX. 0.7mm. IF PLAY IS HIGHER OR LOWER, REBUILD THE CRANKSHAFT.	 <p>Fig.9</p>
<i>AFTER ASSEMBLING THE CRANKSHAFT, IT MUST BE ALIGNED. IF NOT, EXCESSIVE VIBRATION, HARD STARTING OR POOR ACCELERATION WILL RESULT.</i>		
a.	PLACE THE CRANKSHAFT BETWEEN THE CENTERS. WITH DIAL INDICATORS READING ON FRONT AND REAR BEARING JOURNALS (see Fig.10).	<p>-CENTERS WITH DIAL GAUGES -COPPER HAMMER</p>  <p>Fig.10</p>

<p>b. ROTATE CRANKSHAFT AND LOOK AT DEFLECTION OF GAUGE NEEDLES, THE DEFLECTION MUST BE, AFTER CENTERING MAX. 0.01mm (see drawing).</p>	
<p>c. ADJUST ALIGNMENT WITH COPPER HAMMER, IF NECESSARY (see Fig.11).</p>	

3 -EASYKART 62cc ENGINE ASSEMBLY

BEFORE REASSEMBLING, WASH ALL PARTS WITH KEROSENE

	<u>OPERATION</u>	<u>REQUIRED TOOLS</u>
1.	<p>CRANKCASE REASSEMBLY:</p> <p>a) CHECK STATUS OF CRANKCASE BEARINGS. VISUAL CHECK REPLACE AFTER 6 HRS MAX.</p> <p>b) PLACE CRANKSHAFT HALVES UNDER PRESS (OR HEAT CRANKCASE HALF AT 70°C).</p> <p>c) INSERT BEARING SHIMS (see Fig.1).</p>	

d) **INSERT BEARING-BALLS** TO BE ON UPPER SIDE AND VISIBLE DURING THE ASSEMBLY . OIL WHEN ASSEMBLING THEN USE TOOL AS PER DRAWING S275/3 (see Fig.2/3).

-SPECIAL TOOL AS PER DRAW . S725/3



Fig.2



Fig.3

e) **INSERT CRANKSHAFT** AFTER OILING THE CRANKSHAFT SEAT IN THE CRANKCASE. CRANKSHAFT MUST BE IN SAME POSITION AS IN ORIGINAL INSTALLATION (see Fig.4).



Fig.4

f) **ASSEMBLE CRANKCASE**
-n°4 SCREWS M6X40
-n°3 SCREWS M6X50
(see Fig.5).

- 5mm ALLEN –CROSS PATTERN (SEE DRAWING)
TORQUE AT 10 Nm MAX.



Fig.5



ATTENTION:
AS FIRST STEP ASSEMBLE CRANKCASE WITH 4 SCREWS AND CHECK CRANKSHAFT AXIAL PLAY (see fig. 6) TO BE $0.20 \pm 0.05\text{mm}$. IF LOWER OR HIGHER, DISASSEMBLE THE CRANKCASE, EXTRACT THE BEARINGS AND USE DIFFERENT STEEL SHIMS (0.10/0.15/0.20). TO RECOVER PLAY SHIMS MUST BE EQUALLY POSITIONED (see Fig.6).

ONCE THE CORRECT PLAY IS ACHIEVED **DISASSEMBLE THE CRANKCASE AND APPLY FLUID GASKET** (Motorseal or equivalent) ON CRANKCASE HALVES AFTER CAREFULLY CLEANING THE SURFACES WITH DILUENT. BE CAREFUL TO CLEAN EVENTUAL EXCESS OF PRODUCT (see Fig.7).

OIL CRANKSHAFT SEAT BEFORE INSERTION (see Fig.8).

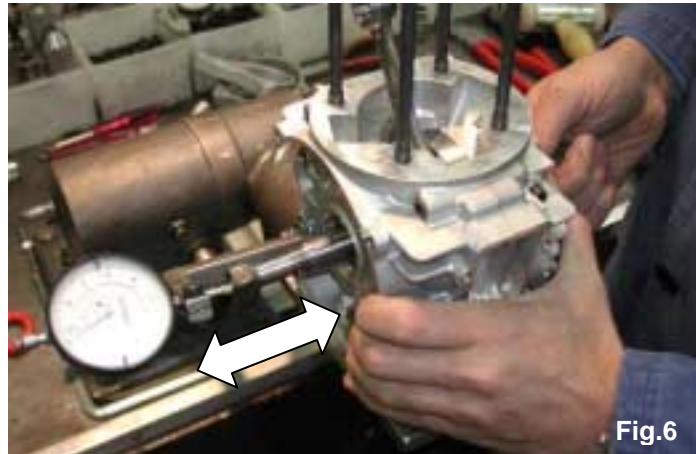


Fig.6



Fig.7



Fig.8

2.

APPLY SPECIAL LUBRICANT ON OIL SEAL LIPS AND INSERT OIL SEALS (MARK ON SEAL TO BE OUTSIDE) (see Fig.9).

- SPECIAL TOOL AS PER DRAWING S725/3



Fig.9



ATTENTION:
**THE OIL SEAL MUST BE REPLACED AFTER
MAX. 6 HRS AND ALWAYS WHEN
DISASSEMBLED.**

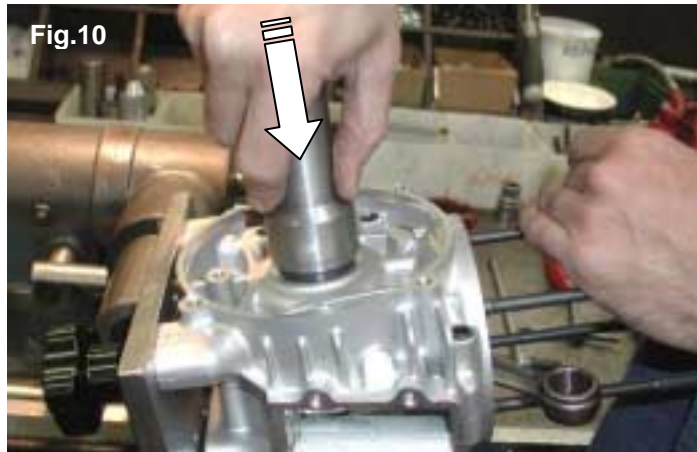


Fig.10

3.

INSTALL PISTON:

a) **CHECK STATUS OF ROLLER CAGE .
CAGE MUST BE REPLACED EVERY 4
HRS.**

b) **CHECK STATUS OF PISTON PIN.
PISTON MUST BE REPLACED WHEN
REPLACING PISTON.
SEE ATTACHMENT ON MATCHING
SELECTIONS.**

c) **INSTALL RING ON THE PISTON**



ATTENTION:
**CHECK FIRST THE PISTON RING END GAP
USING A THICKNESS GAUGE.
MEASURE THE END GAP OF THE PISTON
RING WHEN INSERTED IN THE CYLINDER.
GAP SHOULD BE 0.05 0.20mm (see Fig.12)
REPLACE THE PISTON RING IF THE END
GAP EXCEEDS 0.35mm**

d) **INSTALL PISTON**



ATTENTION:
**PLAY BETWEEN PISTON AND LINER MUST
BE 0.08mm.
IF PLAY IS HIGHER THAN 0.10mm,
REPLACE PISTON.**

FOLLOW ATTACHED INSTRUCTIONS FOR
CORRECT MATCHING.
PISTONS ARE MEASURED AT 15mm FROM
THE BOTTOM OF THE PISTON (see
attachment).

**ALWAYS CHANGE PISTON COMPLETE WITH
RINGS**

e) **MATCH PISTON, WRISTPIN, CAGE (see
Fig.13) FOLLOWING THE PLAYS SHOWN
ON THE ATTACHMENT.
MAKE SURE THAT ARROW ON TOP OF
PISTON IS TOWARDS EXHAUST.
AS A GENERAL RULE WRISTPIN MUST
BE FORCED IN HOLE . IF WRISTPIN IS
LOOSE, REPLACE IT WITH A HIGHER
DIAMETER PIN.**






Fig.11






Fig.12



Fig.13

	<p>f) INSERT PISTON PIN POSITION CIRCLIP ON TOOL. GREASE TOOL TO KEEP CIRCLIP IN PLACE (see Fig.14).</p>	<p>- SPECIAL TOOL: P.N. 10121</p>  <p style="text-align: right;">Fig.14</p>
	<p>g) INSERT CIRCLIP (see Fig.15). CHECK THAT CIRCLIPS ARE IN SEAT.</p>	 <p style="text-align: right;">Fig.15</p>
<p>4.</p>	<p>INSTALL A NEW CYLINDER GASKET</p>	
<p>5.</p>	<p>INSTALL CYLINDER HAVE FIRST A VISUAL CHECK (see Fig.16). OIL CYLINDER AND PISTON.</p>	 <p style="text-align: right;">Fig.16</p>
<p>6.</p>	<p>CHECK STATUS OF CYLINDER HEAD, CLEAN FROM DEPOSITS.. DO NOT SCRATCH COMBUSTION CHAMBER.</p>	
<p>7.</p>	<p>INSTALL HEAD 4 NUTS M8 WITH WASHERS CROSS TORQUE AT 18 Nm</p>	<p>- 13mm SOCKET T TYPE</p>

BEFORE ASSEMBLING THE CLUTCH, WASH WITH DILUENT THE SHAFT TAPER, THE CONNECTING HOLE ON THE CLUTCH BODY, THE CLUTCH DRUM AND STARTER RING.

<p>8.</p> <p><u>INSTALL THE CLUTCH:</u></p> <p>a) INSTALL THE STARTER RING ON THE CLUTCH BODY BY MATCHING THE 3 HOLES AND THE DRAGGING PIN (3 SCREWS M6) TORQUE AT 10 Nm AND APPLY LOCTITE ON THREADS (Loctite) (see Fig.17/18).</p> <p> <u>ATTENTION:</u> <u>MAKE SURE TO ALWAYS INSTALL THE Ø7 DRAGGING PIN. AS OTHERWISE, THE KICKBACKS COULD BREAK THE SCREWS.</u></p>	<p>- 10mm SOCKET T TYPE</p>  <p>Fig.17</p>  <p>Fig.18</p>
<p>b) INSERT KEY ON SHAFT (see Fig.19).</p>	 <p>Fig.19</p>
<p>c) INSTALL THE CLUTCH BODY AND CONE SAFETY WASHER (see Fig.20).</p>	 <p>Fig.20</p>

- d) **INSTALL THE 16 X 1 NUT USING THE CLUTCH WRENCH (see Fig.21). TORQUE AT 40÷50 Nm**



ATTENTION:
TURN COUNTERCLOCKWISE AS NUT HAS LEFT THREAD.

-LOCK WRENCH: P.N. 10270
-HEXAGON RING WRENCH 24mm



- e) **INSTALL THE INNER WASHER (see Fig.22)**



ATTENTION:
INSTALL WASHER WITH BEVEL TOWARDS SHAFT.

CLEAN ROLLER CAGE AND GREASE IT BEFORE INSTALLING ON THE CRANKSHAFT (see Fig.23).



- f) **INSTALL THE CLUTCH DRUM AND EXTERNAL WASHER (see Fig.24).**



ATTENTION:
INSTALL WASHER WITH BEVEL TOWARDS SHAFT.



g) INSTALL THE PISTON FITTING
ROTATE CRANKSHAFT UP TO TDC SO
THAT CRANKSHAFT DOES NOT
ROTATE (see Fig.25).
INSTALL 10mm NUT (see Fig.26).
TORQUE AT 30÷40 Nm

-PISTON FITTING: P.N. 10271
-17mm SOCKET








h) INSTALL CLUTCH COVER
3 SCREWS M6 (vedi Fig.27).
TORQUE AT 8÷10 Nm

- 5mm ALLEN


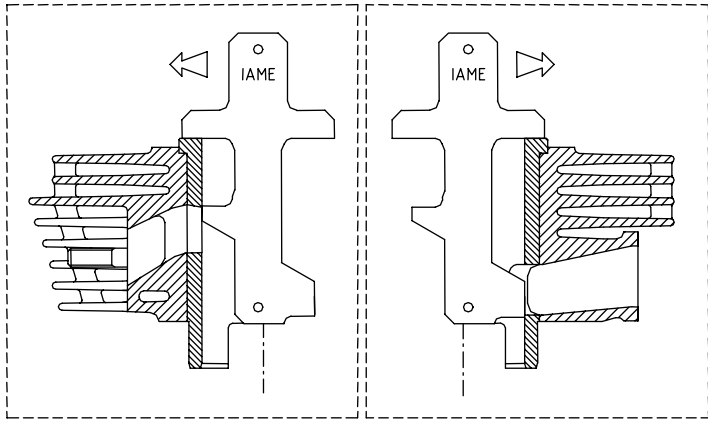





<p>9.</p> <p><u>INSTALL THE IGNITION:</u></p> <p>a) INSTALL PISTON FITTING ON HEAD</p>	<p>-PISTON FITTING: P.N. 10271</p>
<p>b) INSERT KEY ON SHAFT (see Fig.28).</p>	 <p style="text-align: right;">Fig.28</p>
<p>c) INSTALL IGNITION ROTOR ON SHAFT (WITH TIMING PLATE TOWARDS THE EXTERNAL) (see Fig.29).</p> <p>INSTALL THE KNURLED WASHER AND THE SELF LOCKING NUT M8 (see Fig.30). TORQUE AT 18÷22 Nm</p>	<p>- 13mm SOCKET</p>  <p style="text-align: right;">Fig.29</p>  <p style="text-align: right;">Fig.30</p>
<p>d) INSTALL STATOR 4 SCREWS M5X25 (see Fig.31).</p>	<p>- 4mm ALLEN</p>  <p style="text-align: right;">Fig.31</p>

<p>e) INSTALL IGNITION COVER 3 SCREWS M6X18 (see Fig.32).</p>	<p>- 5mm ALLEN</p>  <p>Fig.32</p>
<p>10. INSTALL THE STARTER ASSEMBLY:</p> <p>a) INSTALL STARTER COUNTERSHAFT IN THE STARTER SUPPORT (see Fig.33).</p> <p>b) INSTALL THE COUNTERSHAFT SUPPORT 3 SCREWS M6X20 (see Fig.34).</p> <p>c) INSTALL STARTER. OIL THE "OR" AND PRESS THE STARTER IN SEAT. MAKE SURE THAT GEARS ENGAGE. 1 SCREW M6X16 1 SCREW M6X20 (see Fig.35).</p>	<p>- 5mm ALLEN</p>  <p>Fig.33</p>  <p>Fig.34</p>  <p>Fig.35</p>

<p>d) INSTALL THE STARTER ASSEMBLY ON ENGINE . 4 SCREWS M6X45 (see Fig. 36).</p>	 <p>Fig.36</p>
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4 – CHECK CYLINDER TIMING AND COMBUSTION CHAMBER VOLUME

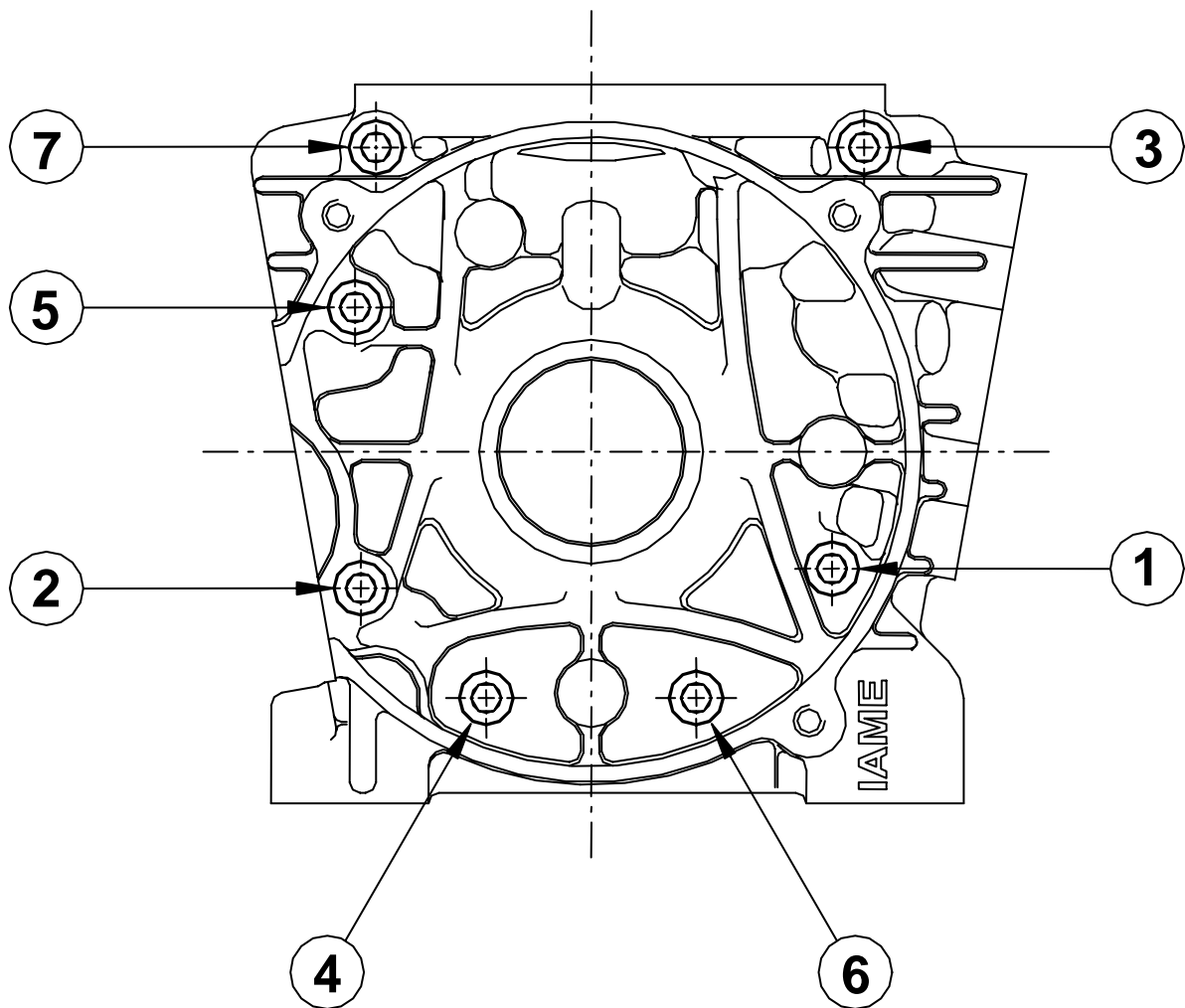
<p>1. <u>CHECK THE TIMING:</u> REMOVE HEAD AND CLEAN THE CYLINDER</p>	<p>-SPECIAL TOOL: P.N.10191E</p>  <p>Fig.1</p>
<p>2. INSERT SPECIFIC TOOL (P.N.10191E) FROM TOP. (see Fig.1).</p>	
<p>3. THE GAUGE IS “NO GO” BOTH ON THE EXHAUST AND ON THE INLET SIDE (see drawing).</p>	
<p>1. <u>CHECK THE COMBUSTION CHAMBER VOLUME:</u> REMOVE THE HEAD AND CLEAN THE COMBUSTION CHAMBER FROM OIL DEPOSITS WITHOUT SCRATCHING IT.</p>	<p>- GRADUATED BURET - VOLUMETER: P.N.10285 - “EASY-KART” INSERT</p>

<p>2.</p>	<p>PLACE HEAD ON SPECIFIC TOOL (P.N. 10285). INSERT WASHERS AND NUTS M8 TORQUE BY HAND (see Fig.2).</p>	 <p>Fig.2</p>
<p>3.</p>	<p>SCREW ON THE "EASY KART" INSERT TORQUE BY HAND (see Fig.3).</p>	 <p>Fig.3</p>
<p>4.</p>	<p>PLACE THE GRADUATED BURET FILLED WITH GASOLINE (60% GASOLINE / 40% OIL)</p>	
<p>5.</p>	<p>FILL THE COMBUSTION CHAMBER UP TO UPPER EDGE OF SPARKPLUG HOLE (see Fig.4).</p>	 <p>Fig.4</p>
<p>6.</p>	<p>READ GRADUATED BURET</p>	

FASTENER TORQUE VALUES (EASY-KART 62 ENGINE)

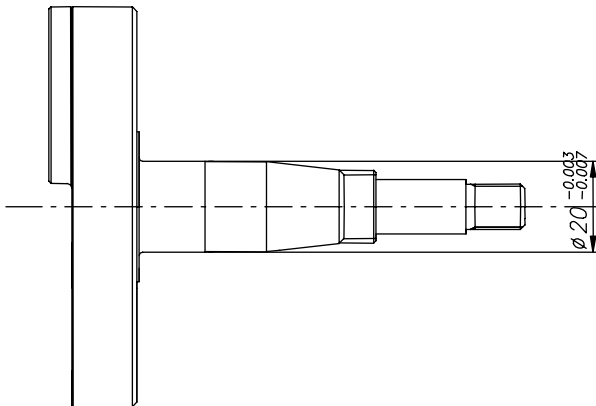
NOMINAL SIZE	Q.TY	FASTENER NAME	WRENCH	VALUES(Nm)	VALUES(in•lb)
M14 x 1.25	1	Spark plug	Hex.20.8	20 – 26	175 – 230
M8 x 1.25	4	Head and cylinder nut	Hex. 13	18 – 22	160 – 190
M6 x 1	2	Exhaust nut	Hex. 10	9 – 11	80 – 100
M6 x 1	2	Carburetor attach. nut	Hex. 10	6 – 10	50 – 90
M5 x 0.8	2	Air filter screw	Allen 4	5 – 6	45 – 50
M5 x 0.8	2	Coil attach. screw	Allen 4	5 – 6	45 – 50
M6 x 1	3	Ignition cover screw	Allen 5	8 – 10	70 – 90
M5 x 0.8	4	Ignition stator fixing screw	Allen 4	5 – 6	45 – 50
M8 x 1.25	1	Ignition rotor fixing nut	Hex. 13	18 – 22	160 – 190
M6 x 1	4	Starter support fixing screw	Allen 5	8 – 10	70 – 90
M6 x 1	3	Counter shaft support screw	Allen 5	6 – 8	50 – 70
M6 x 1	2	Starter attach. screw	Allen 5	8 – 10	70 – 90
M6 x 1	3	Clutch cover attach. screw	Allen 5	8 – 10	70 – 90
M10 x 1	1	Clutch drum fixing nut	Hex. 17	30 – 40	265 – 350
M16 x 1	1	Clutch fixing nut	Hex. 24	40 – 50	350 – 440
M5 x 0.8	3	Engine sprocket fixing screw	Allen 3	6 – 8	50 – 70
M6 x 1	3	Starter ring fixing screw	Hex. 10	9 – 11	80 – 100
M6 x 1	4	Engine tag fixing screw	Allen 5	5 – 6	45 – 50
M6 x 1	7	Crankcase fixing screw	Allen 5	8 – 10	70 – 90
M8 x 1	1	Pressure fitting on crankcase	Hex. 11	10 – 13	90 – 120

CROSS PATTERN LOCKING ORDER ON CRANKCASE



MAIN PRESCRIPTIONS

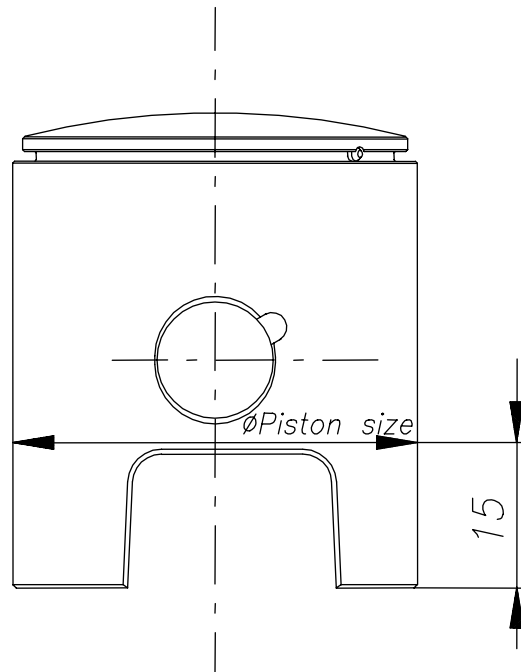
ENGINE CRANKSHAFT



- bearing seat diameter on new engine

replace when size is lower than 0.03mm vs. original

MATCHING THE PISTON



ATTENTION:

play between piston and liner must be: 0.08mm.

If play is higher than 0.10mm. Replace piston

Pistons are measured at 15mm from bottom.

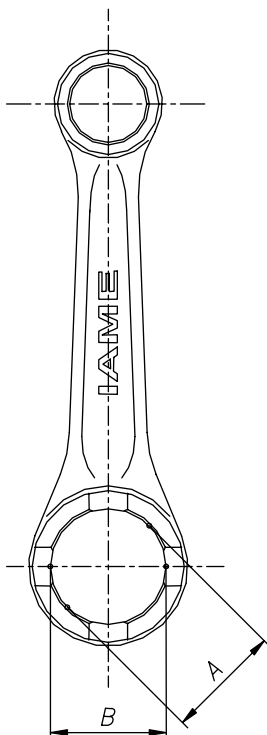
Size of the liner to be matched with piston is marked on top of piston with a green or red dot or with letter V (green) or R (red).

If the size on piston top is marked with

-a green dot or with letter V: the size marked on the piston matches with liner.

-a red dot or with letter R: add 0.01mm to size marked on the piston to match the liner size.

MAX. ALLOWED OVALISATION ON CONROD



Max. allowed ovalization between A and B on new conrod: 0.002mm

Max. allowed ovalization between A and B on used conrod: 0.01mm

BIG END CONROD BEARING MATCHING PLAY

CONROD HOLE	Ø CRANKPIN	Ø ROLLERS	PLAY	
			MIN.	MAX.
24 ^{+0.014} _{+0.018}	18 ^{-0.004} _{-0.008}	3 ^{-0.004} _{-0.006}	0.026	0.038

SMALL END CONROD BEARING MATCHING PLAY

CONROD HOLE	Ø PISTON PIN	Ø ROLLERS	PLAY	
			MIN.	MAX.
16 ^{+0.006} _{+0.012}	12 ^{-0.002} _{-0.005}	2 ⁰ _{-0.002}	0.008	0.021

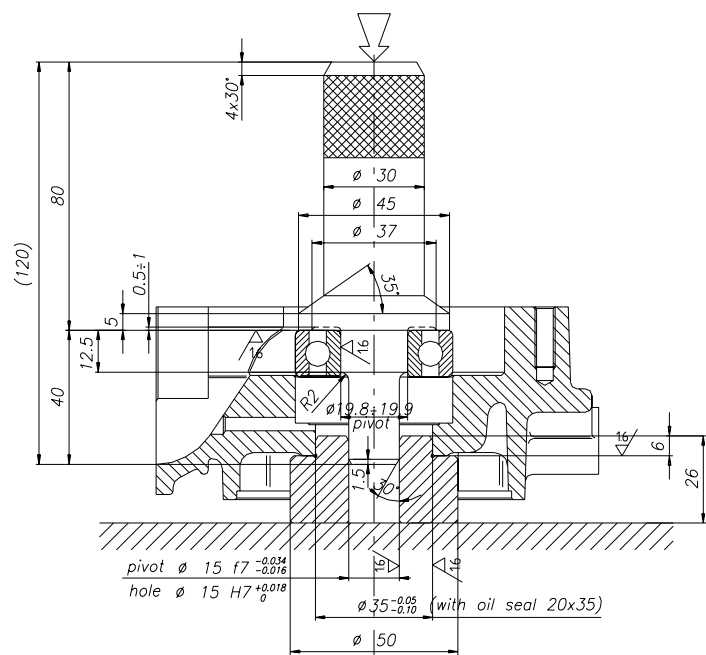
OVERHAUL TOOL LIST
SPECIFIC TOOLS AVAILABLE AT IAME

<u>DESCRIPTION</u>	<u>P.N.</u>
• PISTON FITTING	10271
• CLUTCH LOCKING WRENCH	10270
• CLUTCH DISASSEMBLY TOOL	B-55614-C
• PISTON PIN FITTING	10202
• PISTON CIRCLIP ASSEMBLY TOOL	10121
• CRANKSHAFT DISASSEMBLY KIT	10110-c
<i>It includes:</i>	
- <i>crankpin bush</i>	10150
KIT CRANKSHAFT DISASSEMBLY KIT	10100-C3
- <i>Crankshaft plate</i>	
- <i>Crankshaft support</i>	10103
- <i>Crankpin pusher</i>	10100
- <i>Crankshaft insert</i>	10107
	10108
• TIMING CHECK TOOL	10191E
• VOLUMETER	10285

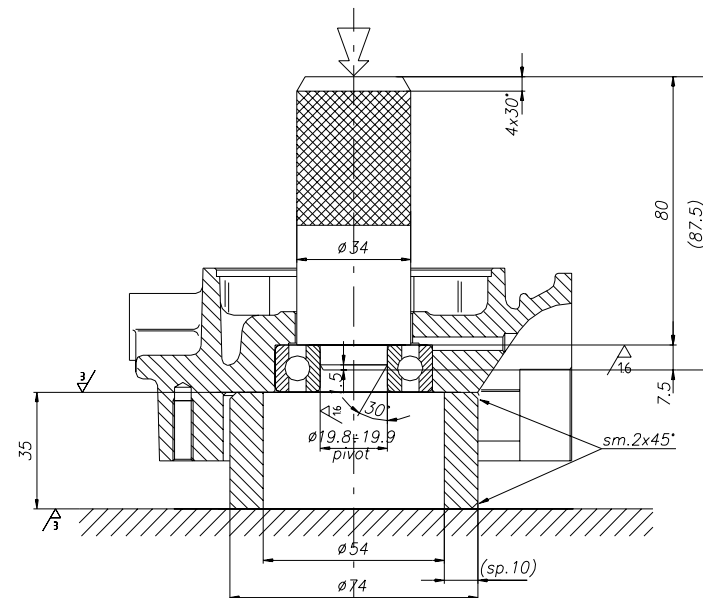
SPECIFIC TOOLS – DRAWINGS ONLY – DRAW. S725/3

• ENGINE FIXING TOOL
• BEARING DISASSEMBLY TOOL
• BEARING ASSEMBLY TOOL
• CIRCLIP ASSEMBLY TOOL

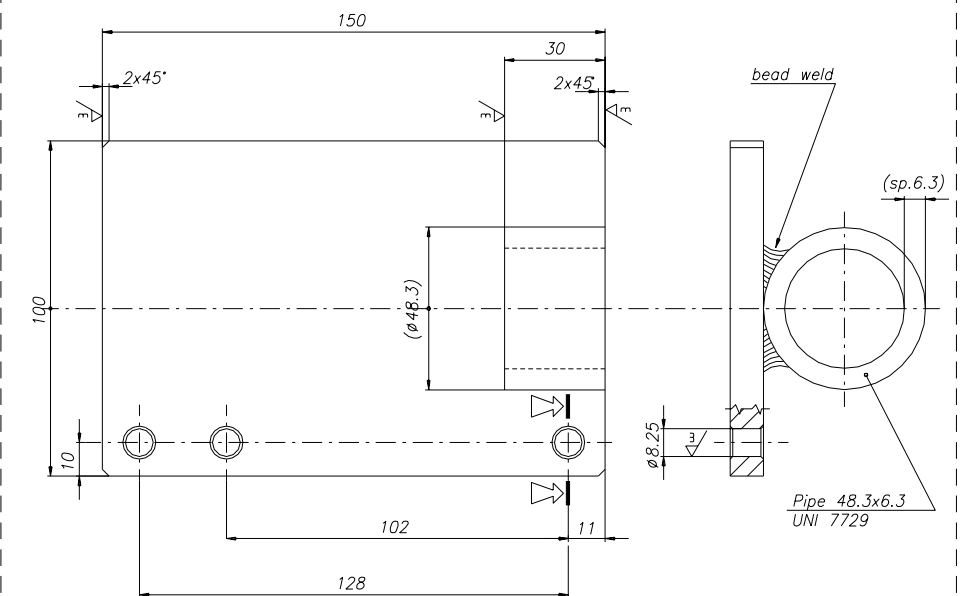
<u>STANDARD TOOLS</u>	
• ALLEN WRENCH	4mm
• ALLEN WRENCH	5mm
• HEXAGON RING WRENCH	13mm
• 12 POINT WRENCH	10mm
• 12 POINT WRENCH	13mm
• 12 POINT WRENCH	17mm
• 12 POINT WRENCH	19mm
• HEXAGON RING WRENCH	24mm
• SPARKPLUG WRENCH	20.8mm
• SCREWDRIVER WITH ROUNDED EDGES	
• PLASTIC MALLET	
• SOCKET T TYPE DYNAMOMETRIC	13mm/10mm
- 5 MeT PRESS	



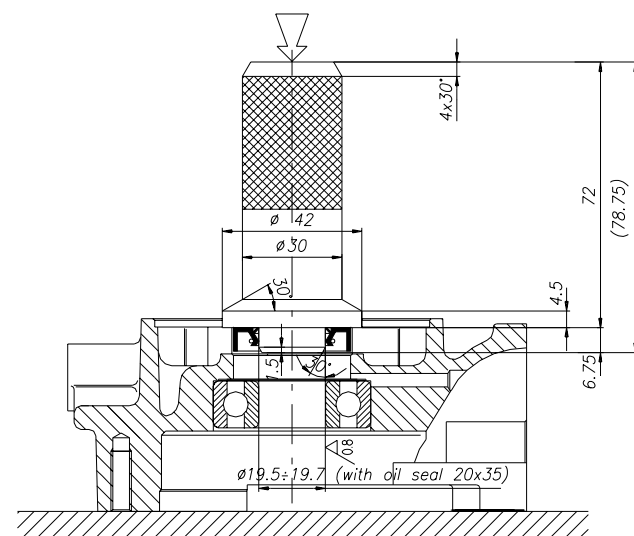
BEARING ASSEMBLY TOOL (Steel C16 cmt. tmp.)



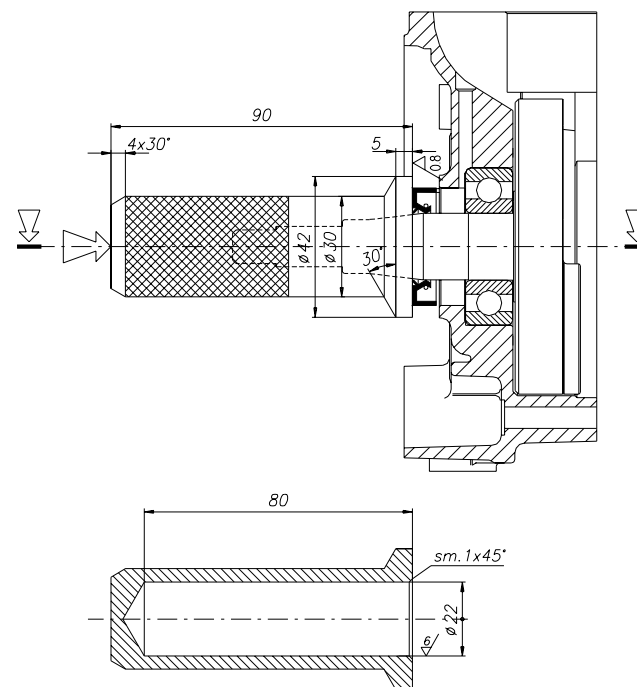
BEARING DISASSEMBLY TOOL (Steel C16 cmt. tmp.)



ENGINE FIXING TOOL ON "VICE" (Steel Fe 50 UNI 5332)



OIL SEAL ASSEMBLY TOOL WITH (Steel C16 UNI 5331)
DISASSEMBLED CRANKSHAFT



OIL SEAL ASSEMBLY TOOL WITH (Steel C16 UNI 5331)
INSTALLED CRANKSHAFT

