



ENARCO, S.A.

BACKPACK / VIB-BAR - TRANSMISIONES Y AGUJAS

BACKPACK / VIB-BAR - FLEXIBLE SHAFT AND POKERS

BACKPACK / VIB-BAR - TRANSMISSIONS ET AIGUILLES

BACKPACK / VIB-BAR - ÜBERSETZUNGSGETRIEBE UND LANZEN



**Manual de instrucciones
Instruction manual
Manuel d'instructions
Gebrauchsanweisungen**

BACKPACK / VIB-BAR, AX, TDX

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1 INTRODUCTION

Thank you for trusting the ENAR brand.

For the maximum performance of the equipment, we recommend to read carefully the safety recommendations, maintenance, and usage listed in this manual

Defective parts should be replaced immediately to avoid major problems.

The effective longevity of the equipment will increase if the manual instructions are followed.

We will glad to help you with any comments or suggestions in reference to our equipment.



2 POWER UNIT CHARACTERISTICS

MODEL	HONDA GX-35 BACKPACK VIB-BAR
TYPE/DISPLACEMENT	4 STROKE / 35,8 CC
MAX OUTPUT/R.P.M.	1,6 HP / 7000 R.P.M.
CARBURETTOR	DIAPHRAGM TYPE
IGNITION	TRANSISTORS MAGNETO
STARTING	COIL
FUEL	PETROL
FUEL TANK CAPACITY	700 CC
WEIGHT	3,33 KG (WITHOUT CLUTCH)

SPEED..... 9.000 - 10.000 RPM

WEIGHT..... 7 KG (BACKPACK)

6 KG (VIB-BAR)

FUNCTION.....Transmites rotation power to an internal vibrator
by a flexible shaft

CONNECTION TO FLEXIBLE SHAFT..... FEMALE SQUARE 7

CONNECTION TYPE.....THREAD M36X2 LEFT

3 CHARACTERISTICS OF FLEXIBLE SHAFT AND POKERS

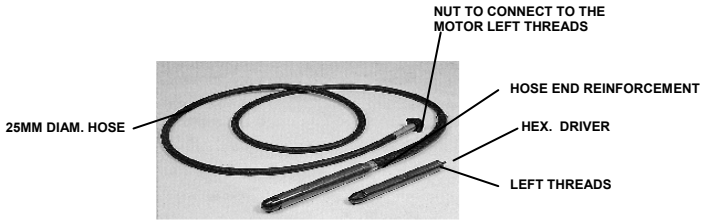
SCOPE

The flexible shaft connected to the power unit sends the movement to an eccentric placed in the poker, and so it is produced the vibration for the compacting of the concrete.

MODEL	DIÁMETRE (mm)	LENGTH (mm)	WEIGHT (Kg)	CENTRIFUGUE FORCE (Kg)	FREQUENCY (V.P.M)	CAPACITY (m ³ /h)
AX 25	25	300	1, 580	90	14.000	UP TO 10
AX 38	38	345	1, 900	410	13.500	UP TO 15
AX 48	48	370	3, 600	550	12.500	UP TO 25

MODEL	LENGHT (m)	WEIGHT (Kg)	AX 25	AX 38	AX 48
TDX 0,7 m	0,7	2,0	14.300	13.800	12.800
TDX 2 m	2,0	4,0	13.750	13.250	12.250





4 GENERAL AND SPECIFIC SAFETY RULES



WARNING!  **READ AND UNDERSTAND ALL INSTRUCTIONS.**

4.1 WORK AREA

KEEP your work area clean and well lit. Cluttered benches and dark areas invite accidents.



DO NOT OPERATE power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.

KEEP bystanders, children, and visitors away while operating a power tool.

4.2 PERSONAL SAFETY



STAY ALERT, watch what you are doing and use common sense when operating a power tool.

DO NOT USE TOOL while tired or under the influence of drugs, alcohol, or medication.

DRESS PROPERLY.

DO NOT WEAR loose clothing or jewellery.

CONTAIN long hair.

KEEP your hair, clothing, and gloves away from moving parts.

AVOID accidental starting.

KEEP proper footing and balance at all times.

USE safety equipment.

Always **WEAR** eye protection.

4.3 TOOL USE AND CARE

DO NOT FORCE tool.

USE the correct tool for your application.

DO NOT USE tool if switch does not turn it on or off.

STOP the machine before making any adjustments, changing accessories, or storing the tool.

STORE idle tools out of reach of children and other untrained persons. .

CHECK for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation.

If damaged, **HAVE** the tool serviced before using.

USE only accessories that are recommended by the manufacturer for your model.

4.4 SERVICE



Tool service **MUST BE PERFORMED** only by qualified repair personnel.

When servicing a tool, **USE** only identical replacement parts.

FOLLOW instructions in the Maintenance section of this manual.

BACKPACK / VIB-BAR - FLEXIBLE SHAFT AND POKERS

AX25, AX38, AX48

TDX0,7m, TDX2m – BACKPACK / VIB-BAR



4.5 SPECIFIC SAFETY RULES

For your own safety, as well as for the others one, and in order not to cause any damage to this equipment, please read carefully the instructions **that are explained as follows**:



- 1.- For the proper use of this device, please assure that the operator has been correctly informed of the content of this manual before using it.
- 2.- This machine must be used only under the applications for which it has been designed and according to these safety instructions.
- 3.- Do not touch any part of the vibrating group when the motor is running.
- 4.- Do not work in an area exposed to flammable liquids or gases.
- 5.- Do not allow inexperienced or not trained personnel to use the machine.
- 6.- Please secure all the threads and bolts before working.
- 7.- Do not stop the machine until the concrete mass is fully vibrated.
- 8.- Do not work with the machine if any type of dysfunction, even small, has been observed.
- 9.- Do not connect the flexible shaft to the motor when this is working.
- 10.- Do not operate in the motor shaft when this is working and without transmission
- 11.- Do not work with transmission or poker in bad conditions, the motor overheats.
- 12.- Do not permit untrained personnel to operate the motor or connections.
- 13.- Read the engine manufacturer's manual before working.
- 14.- Do not work in closed rooms, the exhaust fumes may be toxic.
- 15.- Wait 2 minutes for the petrol refill until the motor gets cold.
- 16.- Keep the air intake clean and opened for the correct running of the motor.
- 17.- The vibration that transmitted to the operator does not exceed 2,5 m/s² of acceleration. (1,45 m/s² obtained value).



IN ADDITION, LOCAL COUNTRY ESTABLISHED ORDINANCES SHOULD BE RESPECTED.

5 USAGE CONDITIONS

For your own safety, as protection for others, and to avoid damage to the equipment, read carefully the usage recommendations.

1. Before working, to be sure the hose joint nut is fastened to the motor (screwed to left).
2. Be sure the poker is well screwed to the flexible shaft (screwed to left).
3. Do not work with flexible shaft with big bends.
4. Do not overlubricate the shaft.
5. Do not keep working the poker out of the concrete more than 5 minutes.
6. Do not restrict the movement of the poker during the work.
7. Do not stop the poker inside the concrete.
8. Change the wear parts to avoid damage to the internal parts. (Check wearing table for the poker)
9. Do the maintenance with the kinds and quantities of recommended lubricants.

6 OPERATION AND MAINTENANCE

6.1 BEFORE START



- 1.- Before working, make sure that all the security devices are operating under normal conditions.



- 2.- Read the engine manufacturer manual.



- 3.- Do not work in rooms with scarce ventilation.

- 4.- Make sure there is no flammable good near to the escape.



- 5.- Check the petrol level in the reservoir (use always unleaded gas in 4 stroke engines).



- 6.- Check the oil reservoir of the motor is full (see engine manual) in the 4-stroke engine (SAE10W40).
- 7.- Check all the bolts are well tighten.
- 8.- Start the motor, regulate the speed with the accelerator until it reaches a good vibration.
- 9.- When a defect or a malfunction has been detected, endangering the use of this machine or not, stop the work and make the correspondent maintenance to avoid any danger or bigger damage.



6.2 GETTING STARTED

Read item 5 USAGE CONDITIONS

6.3 SHAFT CONNECTION TO POWER UNIT

Power unit is designed to facilitate a quick and safe connection to flexible shaft.

CONNECTION PROCEDURE:

1. Connect the transmission shaft to the square engine housing.
2. Screw plastic nut of shaft to aluminium thread of power unit . (Be aware of nut turns left and not tool is required)

CONNECTION CHOICES :

FLEXIBLE SHAFT LENGTH:

BACK PACK: 2m. (TDX 2M, TDX-E 2M)

VIB-BAR: 0,7m. (TDX 0,7M, TDX-E 0,7M)

VIBRATOR DIAMETER :

TO 48mm (AX25, AX38 and AX48)

6.4 POKER CONNECTION TO FLEXIBLE SHAFT

The flexible shafts **TDX** are intended to connect the pokers: **AX38** and **AX48**.

Allowing to interchange of a poker to other quickly and without a special tool. The model **AX25**, due to the diameter need a special transmission. (**TDXE**).

CONNECTION PROCEDURE:

- 1-Introduce the hexagonal driver of the poker in the shaft.
- 2-Screw the poker on the screwed end of the transmission up to fasten with spanner. (left threads).

6.5 INSPECTION

1. Before starting the job , check the correct working of all handling and safety devices
2. Inspect regularly the good condition of the transmission. When the hose is broken, repair it or replace it to avoid damaging the shaft or the poker.
3. When notice wear parts, replace it.
4. If defects are found in the safety devices or other defects which could reduce the safe handling of the equipment, notify immediately to proper responsible person.

BACKPACK / VIB-BAR - FLEXIBLE SHAFT AND POKERS

AX25, AX38, AX48

TDX0,7m, TDX2m – BACKPACK / VIB-BAR



7 DIMENSIONS OF WEAR FOR DIAMETERS AND LENGTHS OF THE POKERS

MODEL	DIAMETER (mm)	LENGHT (mm)
AX 25	23,5 (25)	310 (220)
AX 38	36 (38)	330 (335)
AX 48	45,5 (48)	355 (360)

- A. The minimum dimensions are bold printed.
- B. The dimensions into brackets are the original dimensions.
- C. Replace the housing when reach the minimum diameter.
- D. Replace the tip when reach the minimum length.



8 PERIODIC MANTENANCE

8.1 PERIODIC MAINTENANCE OF THE PETROL ENGINE



- 1.- **Daily (8 hours).**
Clean the engine and the beams, check the bolts & nuts, check and fill the engine reservoir with oil.
- 2.- **Weekly (50 hours).**
Change the motor oil (first 20 hours), clean the sparking plugs and the air filter.
- 3.- **Monthly (200 hours).**
Clean the oil filter, clean and adjust the sparks plugs.
- 4.- **Every 250 hours.** Clean and set the carburettor, clean the cylinder's head, set the valves.
- 5.- Always use original parts by every maintenance operation.
- 6.- The safety fittings have to be checked after every maintenance.
- 7.- **Every 12 months** or more frequently, the screed has to be sent to an authorized workshop for service according to the intensity of the usage.
- 8.- Do not fill the fuel tank while smoking or near any other potential source of danger.
Lock the petrol admission key when filling, use unleaded gas, clean the gas spelt.
- 9.- Idle speed of the motor must not exceed 3.000 rpm. (standard set).
By every maintenance operation, the idle speed of the engine has to be checked and adjusted at 3.000 rpm.
See the engine manual to set the engine speed, starting and stopping.

8.2 PERIODIC MAINTENANCE OF FLEXIBLE SHAFT AND POKERS

- 1.-To do the maintenance works in the transmission and pocker, firstly disconnect of the motor.
- 2.-In all maintenance operations, original parts will be used.
- 3.-To check the wear of the pocker controlling the outside diameter and length of the pocker. Replace the housing or cap when the diameter or length in the least point is less than the specified in the table according to the model.
- 4.-Lubricate the shaft every 100 working hours.

A way to lubricate the shaft is to grasp some grease in the palm of the hand and run the close hand with the lubricant over the length of the shaft, leaving on the shaft a light coating of the lubricant on the entire length



of the shaft, The recommended quantity is 25 g per metre. Do not overlubricate, it could cause the grease penetrate into the poker, Do not clean the shaft with solvent. The grease recommended is of the brand KLÜBER LUBRICATION with the following characteristics:

Dropping point s/ DIN 51801/1 (°C).....	>220
Temperature range (°C).....	30 a 130
Maximum temperature during a short time (°C).....	180
Worked penetration s/ DIN 51 804 (0.1 mm).....	260
Consistence s/ DIN 51 818.....	2/3
Dynamic viscosity (mPa s).....	3.000
Speed factor (n dm).....	500.000

5.- When the length of the shaft is not equal to the hose (+-10 mm) it is necessary to repair before producing a bigger breakdown.

6.-Every 300 hours of working is recommended to change the lubricant of the poker. To change the oil in the poker dismount the cap. Hold the housing on a vise and tap the cap with a plastic hammer. This will help to break the seal and to loosen the threads. Take out the old oil and fill the cavity of the cap with a light oil non-foaming SAE40 or equivalent. Mount according to the recommendations of the following point. If inspection reveals that the oil is thick, heavy, sticky mixture, then the grease of the flexible shaft has penetrated into the head, and the seals have to be replaced. Follow the steps of the point 7 to replace it.

7.-To do a maintenance follow the following steps:

- Flush the parts with solvent and wipe all part.
- Examine bearings, seals and hex driver. If inspection reveals that grease of transmission has penetrated into the head, the oil seals need replacement. When replacing seals, mount them back to back (neoprene seal lips face away from each other).
- The purpose of the seals is to keep the oil of the head in, and the flexible shaft grease out. Be careful not to damage the polished surface where the seals goes. When the seals are dismounted it is recommended to change it.
- Fill the cavity of the cap with a light oil non-foaming SAE40 or equivalent.
- Apply sealant before assembling and fix the O ring. Tighten and clean the excess sealant. It is important all the parts are tightened to avoid water and cement try to get into the head.

8.-After maintenance job and service, all the parts must be assembled correctly.

9.-Every 12 months or more frequently, depending on the usage conditions. It is recommended an inspection be done by an authorized dealer.

8.3 STORAGE

When the AVMU motor has not been used for long periods of time, it should always be stored in clean, dry, and protected areas.

8.4 TRANSPORTATION

When transporting by vehicles, ensure the AVMU motor is safe against slipping, overturning and blows.

9 LOCATING MALFUNCTIONS

9.1 LOCATING MALFUNCTIONS OF PETROL ENGINE

PROBLEM	CAUSES/SOLUTIONS
The motor doesn't work	Check the gas level.
	Check the gas admission key is open.
	Check the de choke position.
	Check the engine oil level.



9.2 LOCATING MALFUNCTIONS OF FLEXIBLE SHAFT AND POKERS

PROBLEM	CAUSE/SOLUTION
The motor works overload and overheats	1.- Head is overlubricated.
	2.- Too much grease in shaft or too little.
	3.- Failure of seal and the transmission grease have gone into the head or the head oil have gone out.
	4.- Head movement is restricted.
	5.- Transmission with extreme bends.
	6.- Transmission in bad condition, broken hose.
Bearing failure	1.- Not enough oil in the head.
	2.- The head has been working out of the concrete during a long time.
	3.- Water has penetrated the head.
	4.- The housing has received strong stroke.

10 INSTRUCTIONS TO ORDER SPARE PARTS

10.1 INSTRUCTIONS TO ORDER SPARE PARTS

- 1.All spare parts request must include PART CODE NUMBER AS STATED IN THE PART LIST. We recommend to include ITEM'S MANUFACTURE NUMBER.
- 2.The identification plate with manufacture and model number is located in the top part of the motor's plastic frame. The transmission and pokers have the manufacture number engraved outside.
- 3.Let us to know the correct shipping instructions, including the wished route and the address and consignee's complete name.

10.2 INSTRUCTIONS TO REQUEST WARRANTIES

- 1.The warranty is valid 1 year after the purchasing of the machine, The warranty will cover parts with manufacture's defects. In no case the warranty will cover a malfunction due to improper usage of the equipment.
 - 2.In all warranty requests THE MACHINE MUST BE SENT TO ENARCO, S.A. or to an AUTHORIZED SHOP, always including the complete address and name of the consignee.
 - 3.The Technical Assistance Service will immediately notify you if it accepts the warranty and if requested, it will send a technical report.
- The warranty will be void if any equipment has been previously handled by personnel outside of ENARCO, S.A. or not authorized by it.

NB: ENARCO, S.A., reserves the right to modify any part of this manual without prior notice.



11 RECOMENDATIONS OF USE OF CONCRETE VIBRATOR

1. Choose the type of vibrator adequate to the dimensions of the structure to vibrate, the distance among the reinforcement and the slump cone. It is recommendable to have an additional concrete vibrator.
2. Before starting check that the concrete vibrator is in good use and it works correctly. Use the means of safety and protection.
3. Pour the concrete in the structure avoiding high heights. Try to pour levelled the concrete. The thickness of every layer should be less than 50 cm, it is recommendable between 30 and 50 cm.
4. Introduce the vibrator vertically in the concrete mass without moving it horizontally. Do not use the vibrator to push the concrete horizontally. The concrete vibrator should be introduced into the mass at regular intervals. The interval should be from 8 to 10 times the diameter of the poker. See the concrete in the process of vibrating to determine the field of action of the vibrator. This field should be overlapped to avoid areas without vibrating. To obtain an optimum compacting of the concrete, plunge it 10 cm into the precedent layer to assure a good adherence. The time in vibrating the different layers should not be big to avoid cold joints. Do not push or force the vibrator into the mass, it could be stuck in the reinforcements.
5. The time of vibration in each point depends on the type of the concrete, the size of the vibrator and other factors. This time can be from 5 to 15 seconds after the immersion in each point. The time is shorter for a fluid mass, a vibration in excess can produce segregation. It is considered the concrete to be well vibrated when the surface around the poker is shiny and compact and there is no more air bubbles, as well a change in the noise of the vibrator is produced. So much defects in structures are produced due to perform the vibration in an unmethodically way and in a hurry.
6. Do not push or force the vibrator against the reinforcement. Keep a distance of 7 cm minimum from the walls.
7. Always remove the poker vertically with movements upwards and downwards so the concrete fills the empty space again. Do not switch off until you stop the vibration completely. Se speed of removing is approximately 8 cm per second. When the vibrator is nearly out extract quickly to avoid shaking the surface.
8. In order to vibrate slabs, the poker has to be kept oblique so that the contact superficly with mass is bigger and the compacting effect is better.
9. Do not keep the concrete vibrator out of the concrete during long periods. If you do not continue vibrating stop it.
10. Follow the maintenance instructions.

The concrete has to be carefully prepared to get the best effects of the vibration in terms of consistency and resistance