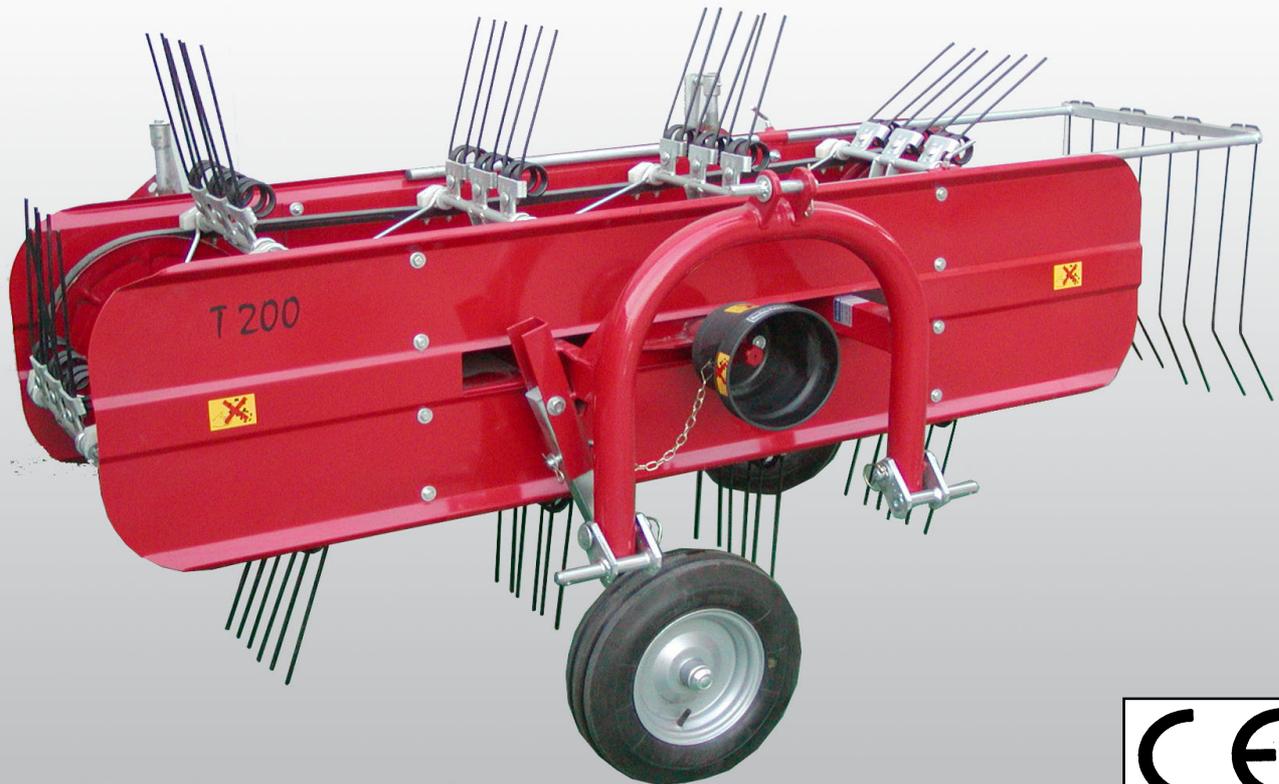




Morellato Pietro & Figli S.n.c.

BELT RAKE

Models T160-T180-T200-T220-T240



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INSTRUCTIONS FOR USE AND MAINTENANCE

EDITION:

01/2003

LANGUAGE:



Manufacturer:

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Machine:

BELT RAKE

Model:

T160-T180-T200-T220-T240

Year of construction

Client:

Client:

User:

User:

Address:

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Enclosed is the universal joint operating and maintenance manual.

TECHNICAL SPECIFICATION

Model:	T160	T180	T200	T220	T240
Rakes	8x3	9x3	10x3	11x3	12x3
Working width in cm.	145	165 cm	185 cm	205 cm	215 cm
Overall size (w. x l. x h.)	160x130 x110	180x130 x 110	200x130 x 110	220x130 x 110	240x130 x 110
Weight (Kg)	148	150	179	205	242
Axle power Kw (HP)	6,5 (9)	7 (9.5)	8 (10.9)	8.8 (12)	10 (13.6)
Rpm.	540	540	540	540	540

DESCRIPTION OF THE FITTING

2.1 Description of the Fitting

The T series Belt Operated Hay Rake Tedder is designed to prepare and gather fodder. It is composed of a band made up of two belts on which spring rocker arms are attached to convey fodder.

This series of fittings can be adjusted to be used on all types of tractors with a three point hydraulic lift.

The fitting is coupled to a tractor via the three point coupling that joins the two machines firmly together.

Motion is transmitted by the tractor power takeoff, via a universal joint shaft. By rotating the belts at a determined distance from the ground, the operations described below can be performed.

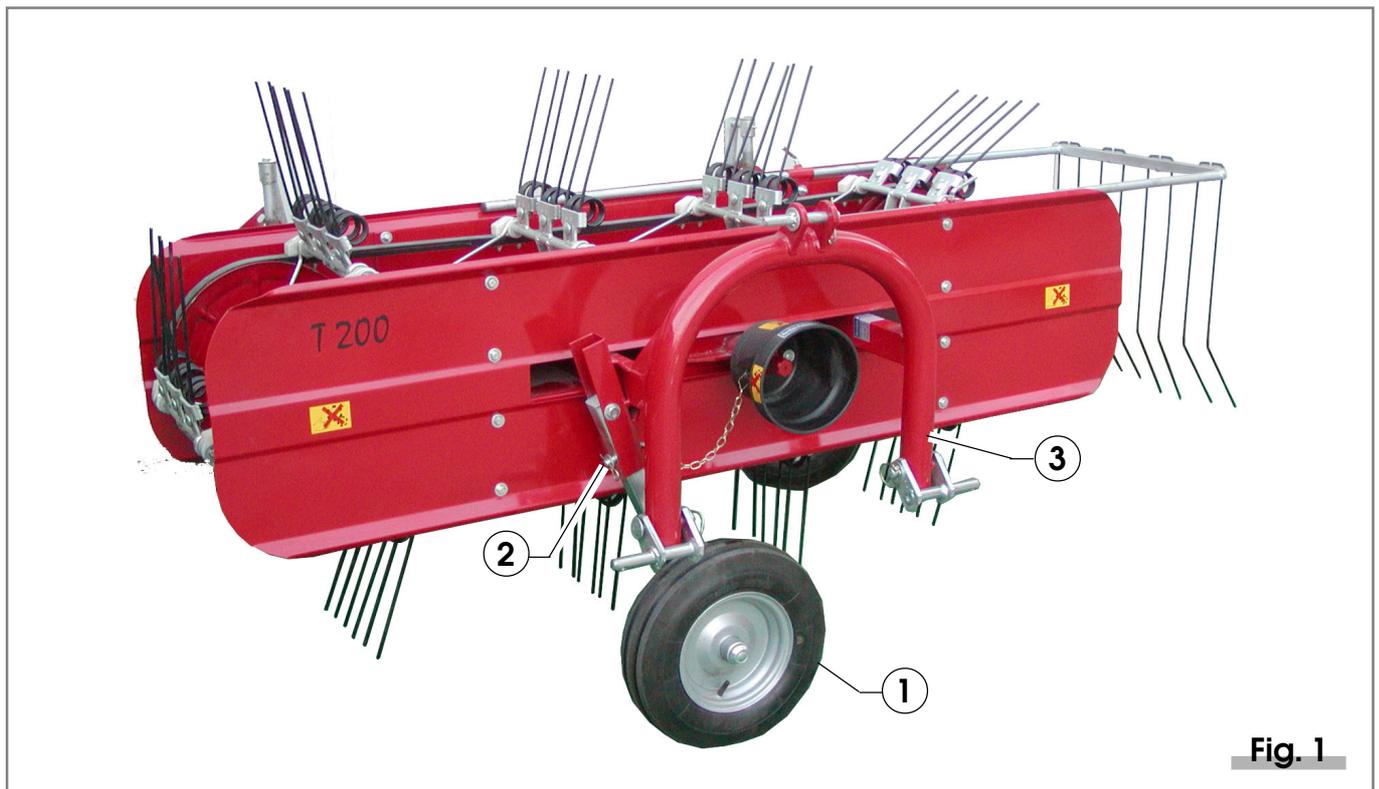


Fig. 1

INTENDED AND UNAUTHORIZED USES

3.1 Intended and Unauthorized Uses

This fitting is designed to rake, ted, scatter and air fodder. It is not designed for other kinds of crop.

PACKAGING AND TRANSPORTATION

4.1 Packaging and Transportation

These fittings are supplied fully assembled or partly disassembled, packaged, stacked and bound with a metal strap. If packaged, they can be handled with forklift trucks or lift belts, referring to the weights specified in kg.

No special conditions are required since the centre of weight is practically in the middle of the bulk volume.

ASSEMBLY AND DISASSEMBLY

5.1 Assembly and Disassembly

The packaged fitting is supplied with the rocker arms on the top of the belt lowered and with rear wheel support bar assemblies while the wheels are detached.

To set up the fitting for use, follow the instructions below:

1. Assemble the wheel on the conical bushing (item 1, figure 1) of the front support bar and attach the support bar itself to the support on the front coupling as shown in figure 1. Make sure that the locking pin (item 2, figure 1) and its safety cotter pin are firmly inserted.

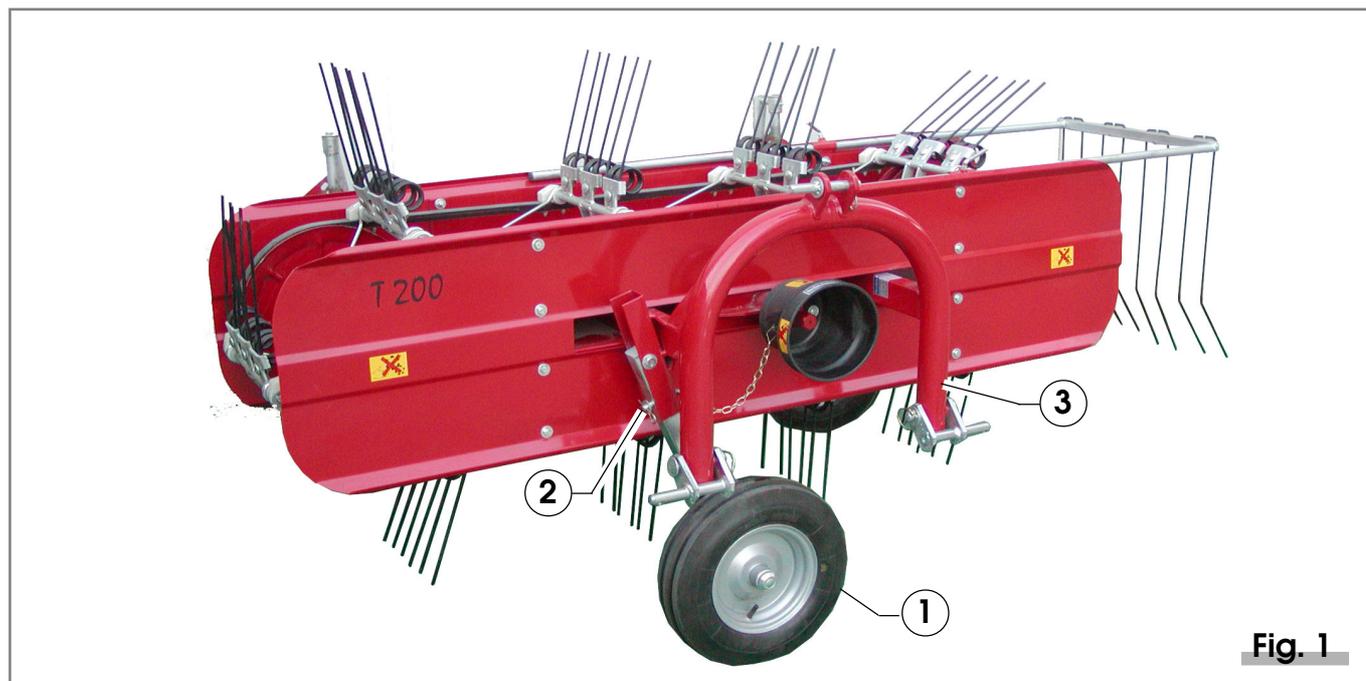
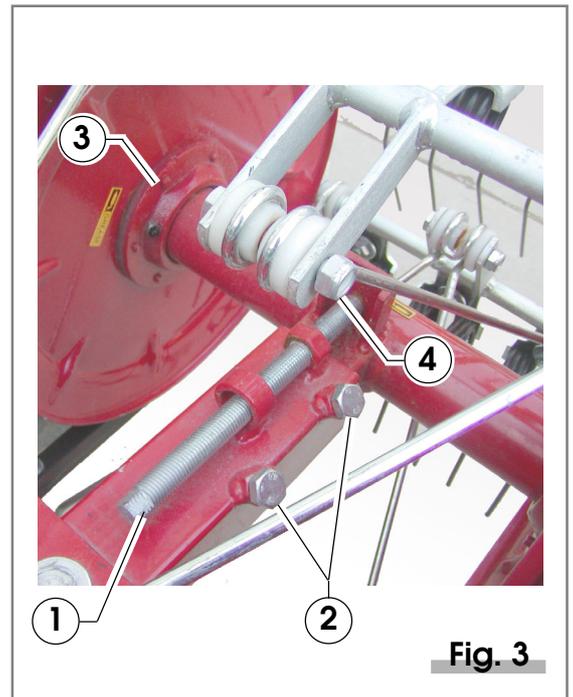
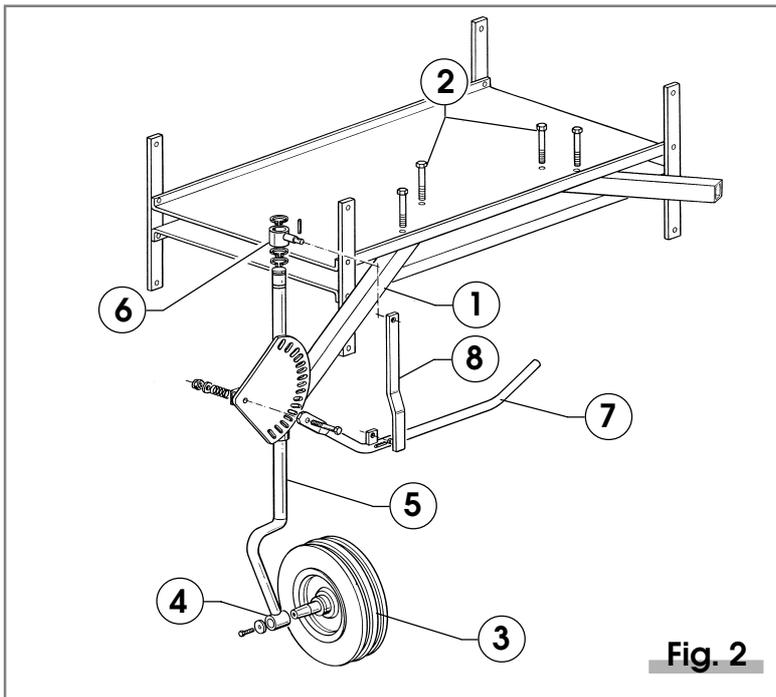


Fig. 1

2. Fit the arm and rear wheel support bar assemblies (figure 2, item 1) by fastening the middle casing of the fitting with M12x80 screws and related locknuts, item 2. The wheel, item 3, is then fastened to the conical bushing of the support bar, item 4, with the screw (M12x20) and washer supplied and the support bar is inserted into the arm as shown in figure 2. The component, item 6, now needs to be inserted on top of the support bar, clamping it with two Seeger rings at the bottom and one on top. The lever, item 7, is pre-assembled with the connecting rod, item 8, and is fastened with a M14x100 screw, spring, washer and locknut to the arm, item 1, as shown in figure 2.



3. Turn the rocker arms to their operational position and fasten each of them with the preceding twin tie rod with the screw and locknut pre-assembled in the tie rod (figure 3, item 4).

SETTING UP FAR START-UP AND STORAGE

6.1 Setting Up for Start-up and Storage

- # Before being used, the rake tedder must be lubricated by greasing the points indicated in section 8 below.
- # Belt tension does not need any adjustment for start-up. However, this must be checked after the first ten hours of operation to tighten any stretching. Follow the instructions in section 8 for this operation.
- # Check that the tyres are inflated at a pressure of 2.2 bars.
- # We suggest you store the fitting in stable and safe conditions and avoid exposing the springs to tampering by people.

TRACTOR COUPLING AND ROAD HAULAGE INSTRUCTIONS

7.1 Tractor Coupling and Road Haulage Instructions

The three point front coupling (figure 1, item 3) has to be coupled to the tractor lift. When coupling the two parts, make sure that the unit is positioned properly and the safety cotter pins are all inserted.

For road haulage, proceed as follows:

- # Lift the rake tedder with the hydraulic lift of the tractor so that the wheels are kept above the ground;
- # Turn upwards the rear support wheel as shown in figure 4, item 1;
- # Push in the side hay guard (item 2, fig. 4) and stop it with the threaded coupling pins provided (item, 3, fig. 4).

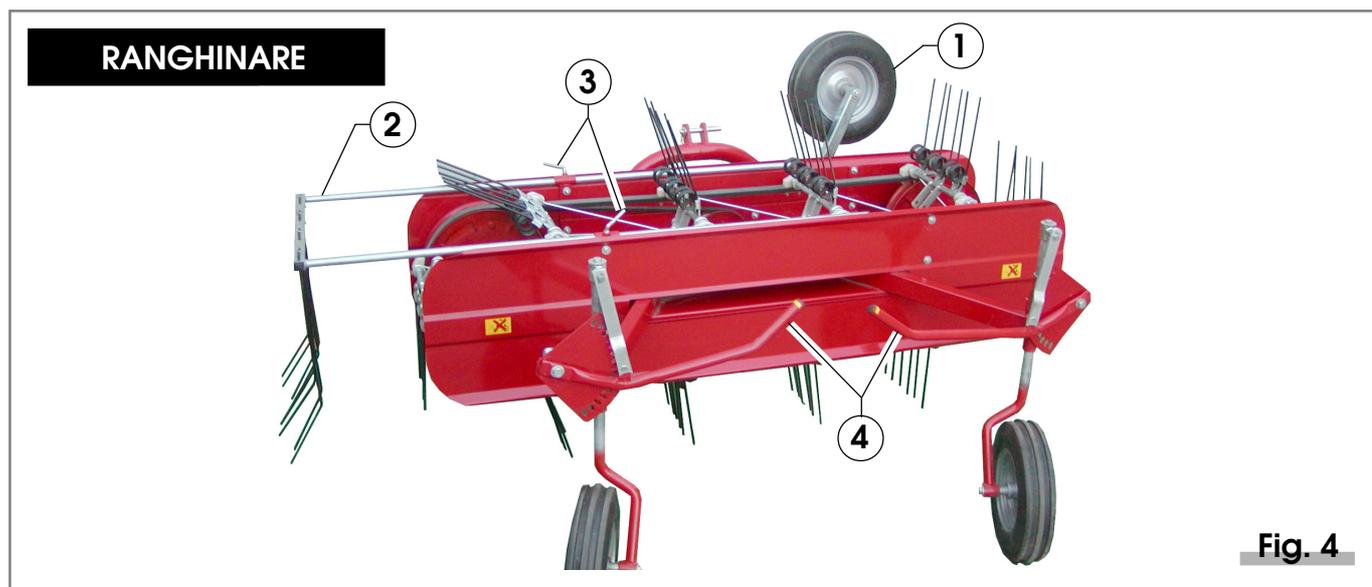


Fig. 4

CAUTION: All local standards and regulations regarding the Highway Code must be complied with.

START UP AND ON-FIELD USE

8.1 Start Up and On-Field Use

To start up the machine, no other operations are required besides those described above.

There are two ways to adjust the rake for on-field use:

- FOR RAKING (figure 4)

The driving band runs horizontally and must be adjusted with the springs about 1cm. above the ground so that fodder is gathered without causing excessive stress on mechanical parts. The fitting is adjusted by lowering the three points and using the two rear levers (item 4, figure 4) to adjust the distance of the band from the ground. The hay guard (item 2, figure 4) must be widened and stopped in an adequate position for the amount of hay being gathered.

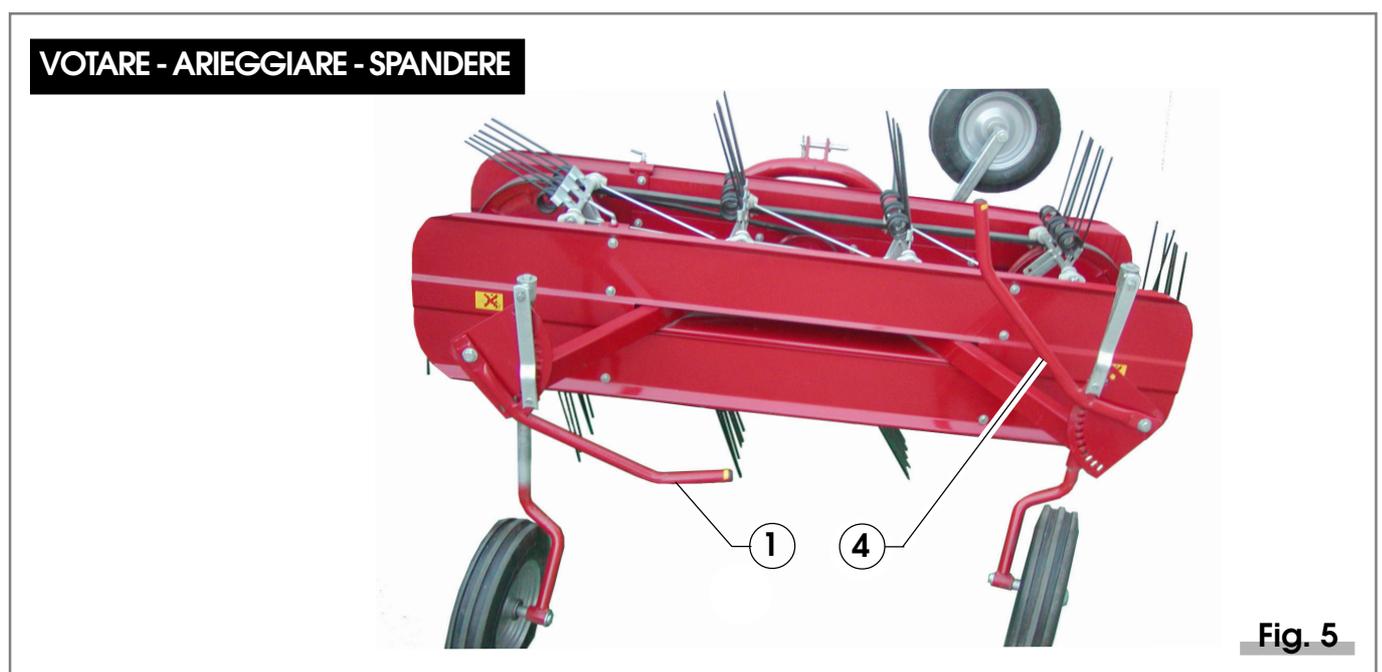
- FOR TEDDING, AIRING AND SCATTERING: (figura 5)

The rake tedder is inclined by operating the two rear levers (items 1 and 2) as indicated in figure 5. The hay guard is removed in this case. As in the case described above, the fitting operates with the rear wheels running on the ground.

CAUTION: The area surrounding the fitting during operation must be kept out of bounds to other people.

CAUTION: Do not under any circumstances operate the hay rake tedder if the driver is not on his driving seat.

CAUTION: The driver must avoid driving the vehicle on bumpy ground or on stones or foreign solid matter that may be hurled far away.



MAINTENANCE AND REPAIR

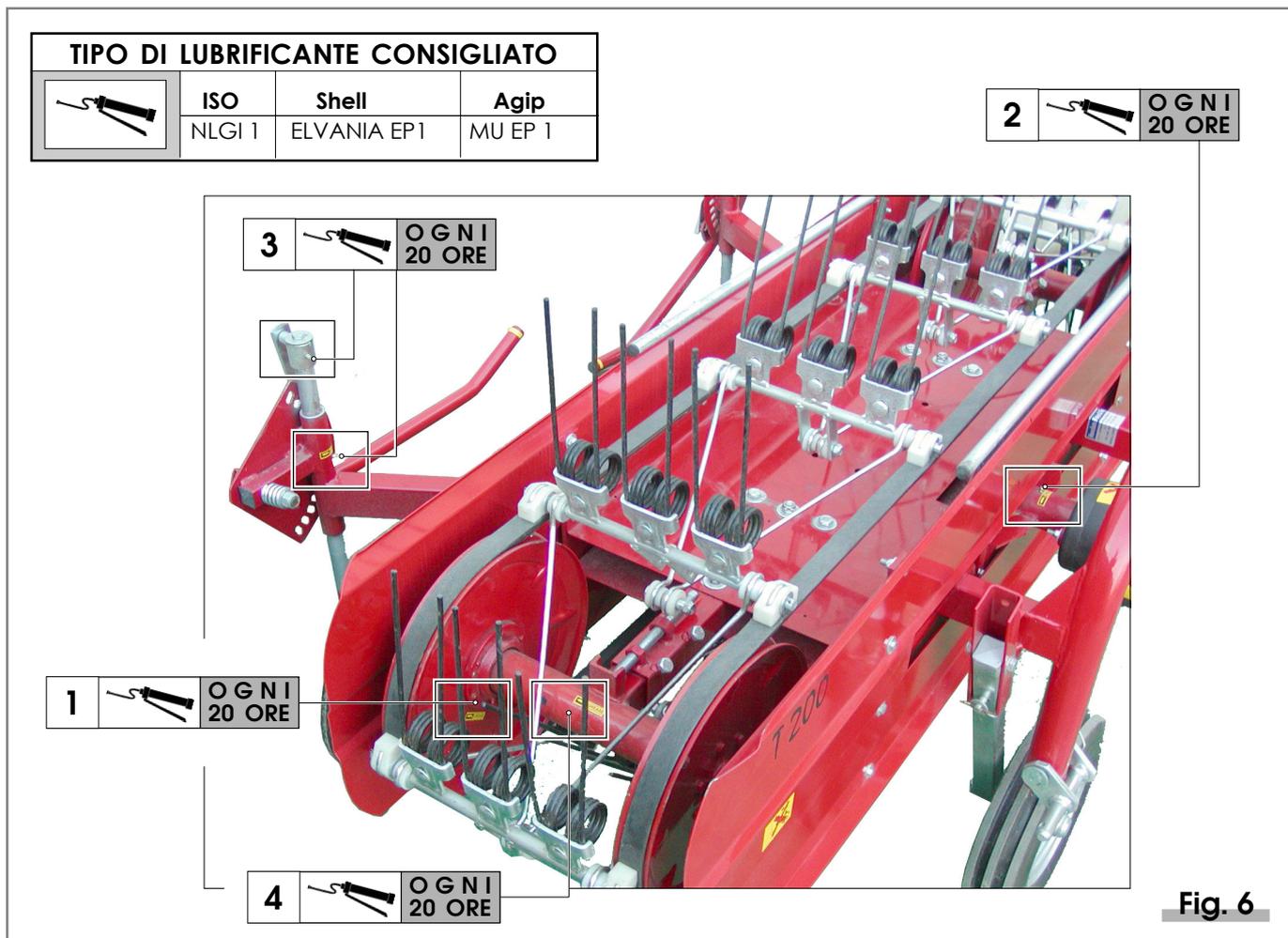
9.1 Maintenance and Repair

CAUTION: Any maintenance operations must be carried out with the power takeoff disconnected. It is up to the maintenance engineer to return all safety guards to their original position.

LUBRICATION:

Whenever lubricating, use a normal grease for outer gears. To ensure that the fitting works properly, lubricate the points indicated below after every 20 hours of operation:

- Lubricate idle pulleys (item 1, figure 6 or item 3, figure 3);
- lubricate the main driving shaft (item 2, figure 6);
- lubricate rear support bars (item 3, figure 6);
- lubricate pulley shafts (item 4, figure 6).



BELT TENSION:

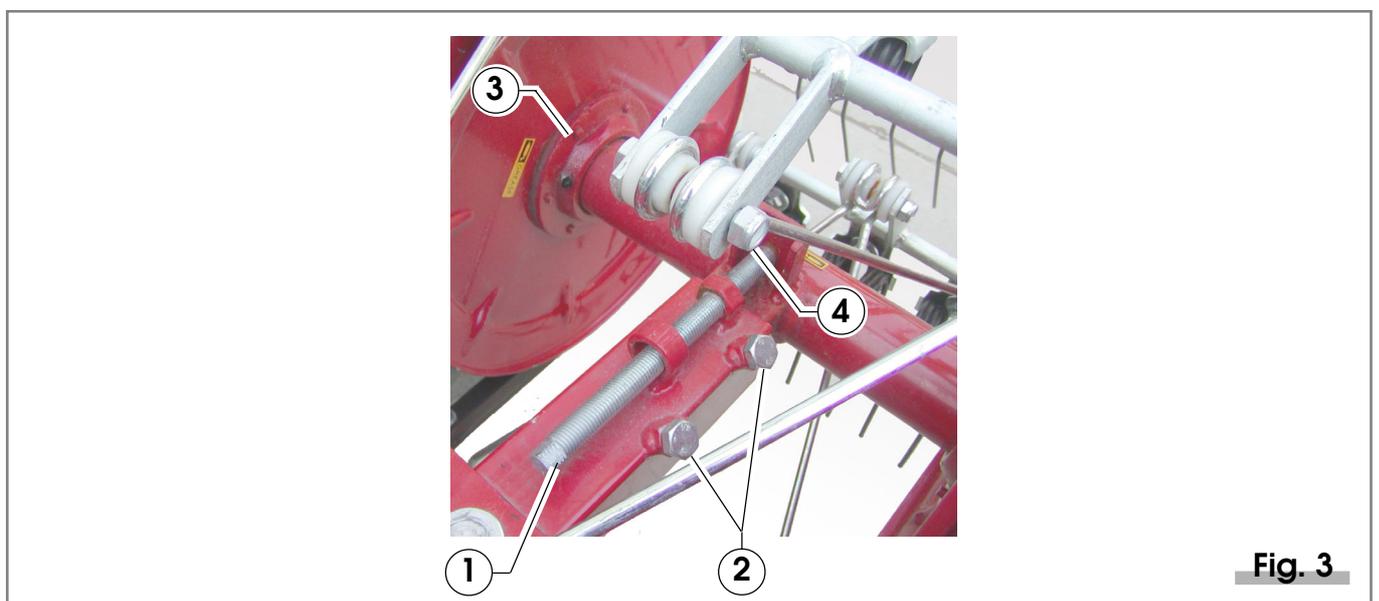
When the belt tension slackens, generally due to natural stretching after several hours of operation, the correct tension can be restored by turning the screws, each located close to both pulley assemblies.

If you wish to tighten only the belts of the driving band, proceed as follows:

- # Loosen both screws fastening the driven pulley assembly (item 2, figure 3, opposite assembly);
- # fasten the belt tightener screw (item 1, figure 3) until the belt is adequately tightened;
- # fit the assembly back on with the fastening screws (item 2, figure 3).

If the driving belts need to be tightened as well, proceed as follows:

- # Loosen the fastening screws of the driving pulley assembly (item 2, figure 3);
- # fasten the belt tightener screws (item 1, figure 3) until the right driving belt tension is reached;
- # lock the driving pulley assembly by fastening the screws (item 2, fig. 3);
- # if the driving band belts are not adequately tight, the opposite pulley assembly must be operated as above described.

**Fig. 3**

TYRE INFLATION PRESSURE:

Periodically check that the tyres are inflated at the recommended pressure of 2.2 bars.(fig. 7)

CAUTION: The safety guards must under all circumstances be placed back in their original position after every maintenance operation.

**INFORMATION ON NOISE****10.1 Information on Noise**

The fitting emits less than 70 dB(A) of noise.

TECHNICAL DOCUMENTS**11.1 Technical Documents**

The following page illustrates an exploded view of the details of the belt assembly with central transmission. Should you order any spare parts, refer to the items as indicated in the drawing and specified in the following list.

BAND GROUP T160-T180-T200-T220-T240

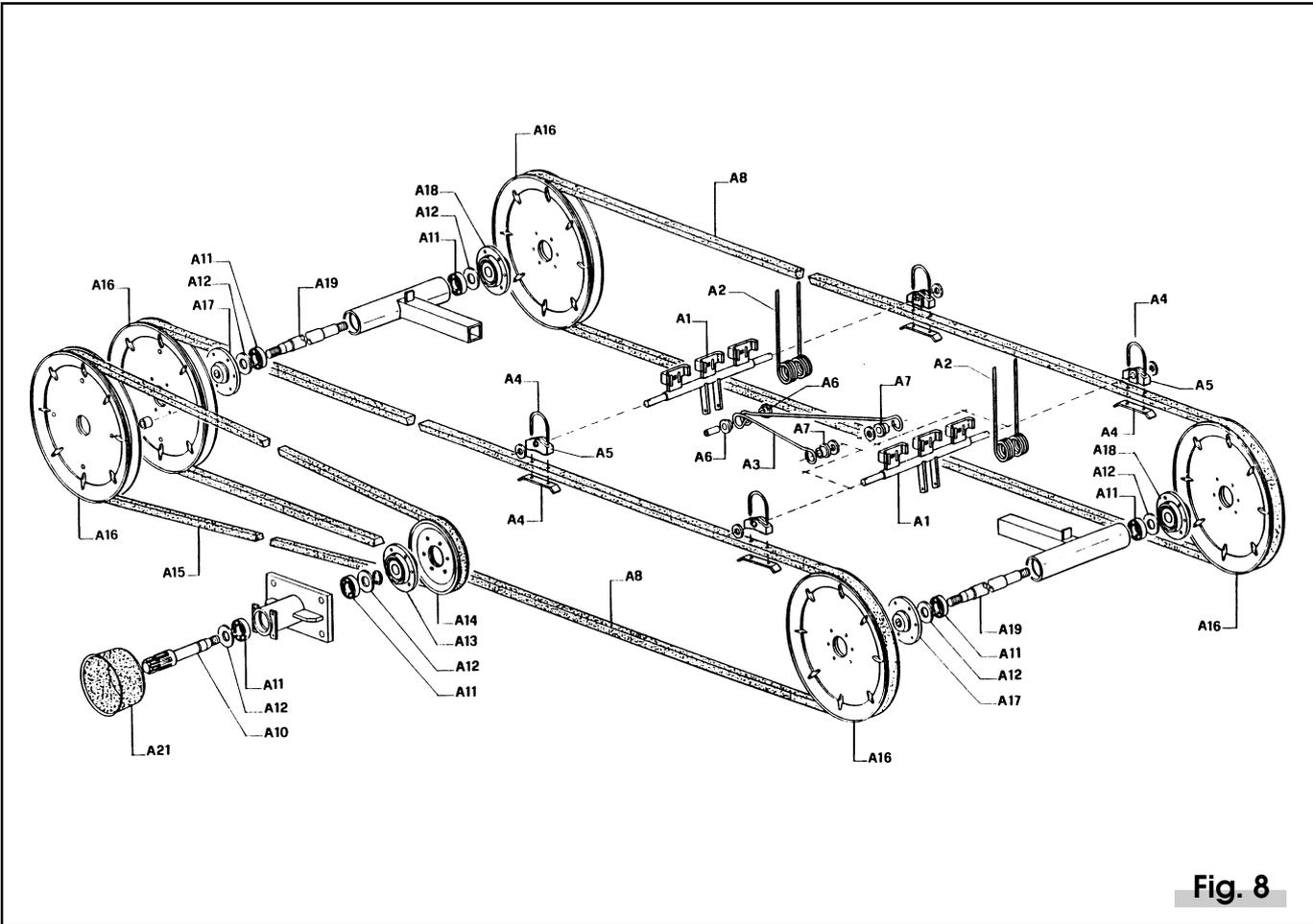


Fig. 8

Pos.	GB Descriptions	Q.ty	Pos.	GB Descriptions	Q.ty
	Belt Assembly		A13	Conical cast iron front hub	1
A1	Galvanized rocker arm	1(*)	A14	Pulley, diam. 200 x 1 C	1
A2	Painted gear tooth	3(*)	A15	Belt section C (22 x 14 mm)	1
A3	Galvanized twin tie rod	1(*)	A16	Pulley, diam. 390 x 1 D	4
A4	Galvanized complete U bolt	2(*)	A17	Conical cast iron hub	2
A5	Nylon support	2(*)	A18	Cylindrical cast iron hub	2
A6	Short nylon bushing	2(*)	A19	Hub support shaft	2
A7	Long nylon bushing	2(*)		Chassis and Wheel Assembly	
A8	Drilled D-section belt (32x19)	2	A21	Plastic protection guard	1
A9	Complete driving band	1		Hay guard tooth	4
	Transmission Unit			Front and rare cover	2
A10	Central shaft	1		Complete wheel	3
A11	Bearing 6205 2RS	4		(*) - See machine model.	
A12	Washer 51 x 25.5 x 2	4			

COMPLIANCE DECLARATION



Morellato Pietro e Figli s.n.c. here by declares that the "**belt rake**" has been designed and manufactured in conformity to the following European Norms and regulations:

89/392/CEE - 14689

91/368/CEE, 92/58/CEE

ORDER:	_____
CUSTOMER:	_____
YEAR OF COSTR.	_____
SERIAL NUMBER:	_____
MODEL:	_____

MORELLATO PIETRO E FIGLI snc

Carmignano di Brenta,
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