

EMT's units have always been designed without any compromise to be the workhorses in a studio for 24 hours a day. Therefore a turntable had to be available all day long. But with the time, turntables have been needed less and less, caused by turning to CDs and computer mass storage. That's the reason why some music lovers got EMT turntables from broadcasters for extremely low prices.

The user should have an eye on his unit from time to time, although the units have been serviced very carefully and in short intervals, and so having been in good condition.

How much care needs my EMT record player?

That depends on the type of unit and on the hours of using.

The mostly stressed part is the bearing of the platter itself. This is less critical with the direct driven units (EMT 938, EMT 948 and EMT 950), as the high mass (needed for good technical data) was designed in the electronics and the platter itself is light weight (to guarantee short start up times). These bearings are oiled for life time and are maintenance free. As long, as the record player becomes not damaged by imprudence, no maintenance is necessary. On the contrary: as the adjustment of the motor needs a huge knowledge, it should be opened only if really necessary.

The opposite is given for the units EMT 927, EMT 928 and EMT 930, as they use a large mass in the platter for good technical data. Depending on the number of hours they were used, the owner should spend some time once a year (or every second year) to replace the bearing oil. The platter should be taken out very carefully to the top (with a continuous eye for oil drops). At the idler wheel driven units EMT 927 and 930 the bearing cover can be drilled out, to let the old oil out (Please take into account, that only ONE drop of oil contaminates 1000 liters of good water, when you dispose the oil). Be carefully and don't drop the bearing ball. Have a look for scratches and damages of the bearing ball (replace if necessary) and the bearing axle. Now the bearing can be cleaned carefully. After that screw the cover on again (if needed, use a new seal ring). Fill the bearing with new oil (use the oil gauge for the correct volume of oil) and put in the platter again very carefully.

As the cover of the bearing can't be taken away at the EMT 928, one can either turn around the complete unit or suck off the old oil. Also clean the bearing, fill it again with oil and put the platter back again carefully.

With the idler wheel driven units have a look, that also the motor gets some oil (put it on the felt ring around the axle).

**ATTENTION:** In every case, have a careful look, that all surfaces for the idler and the belt are carefully FREE OF ANY oil. The experience has shown in the past, that units which started slowly (also after cleaning), had to be cleaned again and again, until all surfaces were really free of oil. Then they started perfectly. Also the oil may damage the idler wheel and the rubber belt.

Also the tone arm and his bearings needs a careful eye.

The bearing friction shall be so low, that smooth blowing will move the pick up (of course with lever for tracking force set to „0“.

In both, horizontal as well as vertical direction, very less bearing clearance could be tolerated.

Not every bearing clearance can be adjusted, as different bearings have been in use during the times.

If one is willing to adjust the bearings, have a look for a lot of small bearing balls, which might call you „welcome“, when opening the bearings.

As the adjustment of the bearings needs a certain kind of feeling and knowledge, we don't give any hints on this place.

Becoming older, the value of the motor's capacitor might change at EMT 927 and EMT 930. One will recognize that by a disturbing hum, when listening to the music. In that case one will feel the motor vibrating more than usual.

ATTENTION: The RC network for phase shifting leads mains voltage. This is not covered by a cage at older units!!

A necessary adjustment can be done in the following way:

- ◆ Connect an oscilloscope to the audio output of the record player.
- ◆ Don't touch the variable wire wound resistor.
- ◆ Remove the (normally installed) cage next to the motor.
- ◆ Put the mains lever in a position (which is not marked) between the middle and the left one marked position. With a special feeling for the unit, the lever will keep that position. That means, that the motor is working, but the platter will not move.
- ◆ Put the needle in an empty groove of the record.
- ◆ Set the oscilloscope in a way, that the hum is good visible.
- ◆ Try to minimize the amplitude of the hum by connecting small capacitors in parallel to the mains capacitor.
- ◆ If the result is a larger amplitude, instead of a smaller one, the large capacitor has to be replaced. Now align, like written before.
- ◆ If the minimum is found and the capacitors are soldered, the cage should be placed back again.

Naturally the electronics need no maintenance. But it can happen, that the pushbuttons of the direct driven units get high impedance contacts and won't switch at every time, they get pressed. In this case the pushbuttons should be disassembled and the spring blade like a "H" as well as the solder pins should be cleaned.

#### Some spare parts:

Benzingring for idler wheel	8 507 006
Bulb for remote control, 24V, 0,08A for EMT 927 and EMT 930	4 107 007
Bulb for stroboscope for EMT 927 and EMT 930	4 107 094
Bulb for pick up lamp, 6V, 15W for EMT 927 and EMT 930	4 107 001
Oil seal gasket EMT 930	6 940 367
Felt ring for motor EMT 930	4 312 132
Felt ring for idler wheel	4 312 111
Bearing cover for main bearing EMT 930	7 940 371

bearing ball EMT 930	4 250 009
bearing ball for motor EMT 930	4 250 003
bearing oil, 50 ccm for EMT 927 and EMT 930	7 930 690
bearing oil, 500 ccm for EMT 927 and EMT 930	930 OIL
capacitor alignment kit for motor EMT 930	9 930 902
consisting of:	
Capacitor 0,015 $\mu$ F	4 132 632
Capacitor 0,022 $\mu$ F	4 132 630
Capacitor 0,047 $\mu$ F	4 132 240
Capacitor 0,068 $\mu$ F	4 132 621
Capacitor 0,1 $\mu$ F	4 132 624
Capacitor 0,15 $\mu$ F	4 132 628
Capacitor 1,75 $\mu$ F	4 136 081
Oil gauge	6 930 705
Safety washer for idler wheel	8 507 006
Distance washer (without gap) for idler wheel	4 312 127
Idler wheel	7 927 052

#### Tone arm

horizontal bearing cpl., built in horizontally	7 843 091
height gauge	6 929 100
nut for 7 843 091	6 843 098
Vertikal bearing (old)	4 251 012
Vertikal bearing (new) cpl	7 929 500

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