



**NEW MAR SERIES
COMPACT & SPLIT**

SECOND HALF



**NEW MAR SERIES
COMPACT & SPLIT**

MAINTENANCE



NEW MAR SERIES COMPACT & SPLIT

MAINTENANCE

To assure the best ice maker performance and life-lasting :

- Sanitizing: Monthly
- De-scaling: Every six months

Following slides will provide You step by step info - procedure .

MAINTENANCE

Tools:

- Medium size Phillips screwdriver
- Medium size flat screwdriver
- Gloves
- Bucket
- Brush
- Approved cleaner
- Approved sanitizer

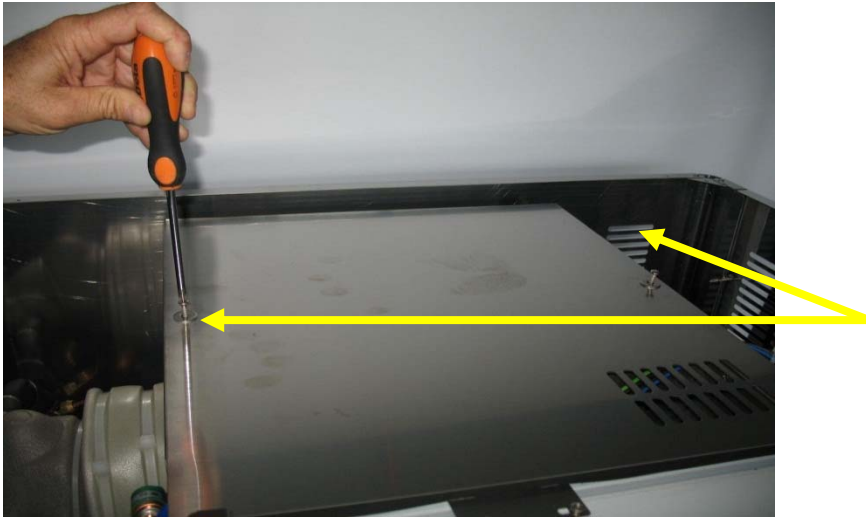


MAINTENANCE

1. Turn the unit OFF by main switch
2. Remove top panel



MAINTENANCE



3. Remove
evaporator assy
cover



4. Close water inlet
tap

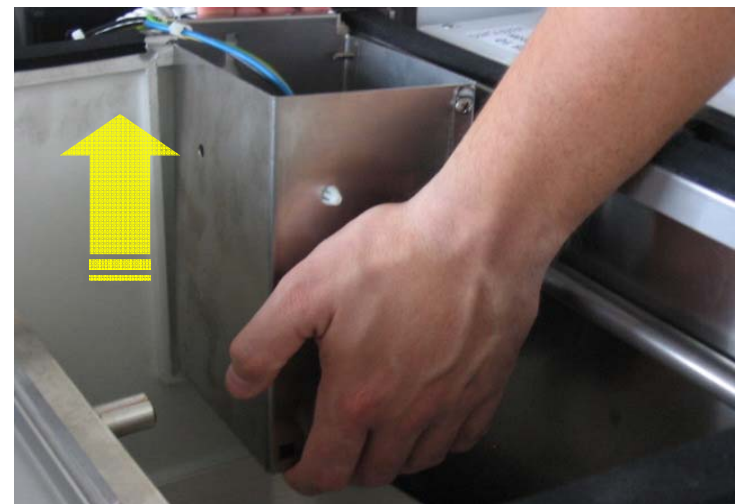
MAINTENANCE



5. Push in water inlet hose clamp and pull the same out from spray system

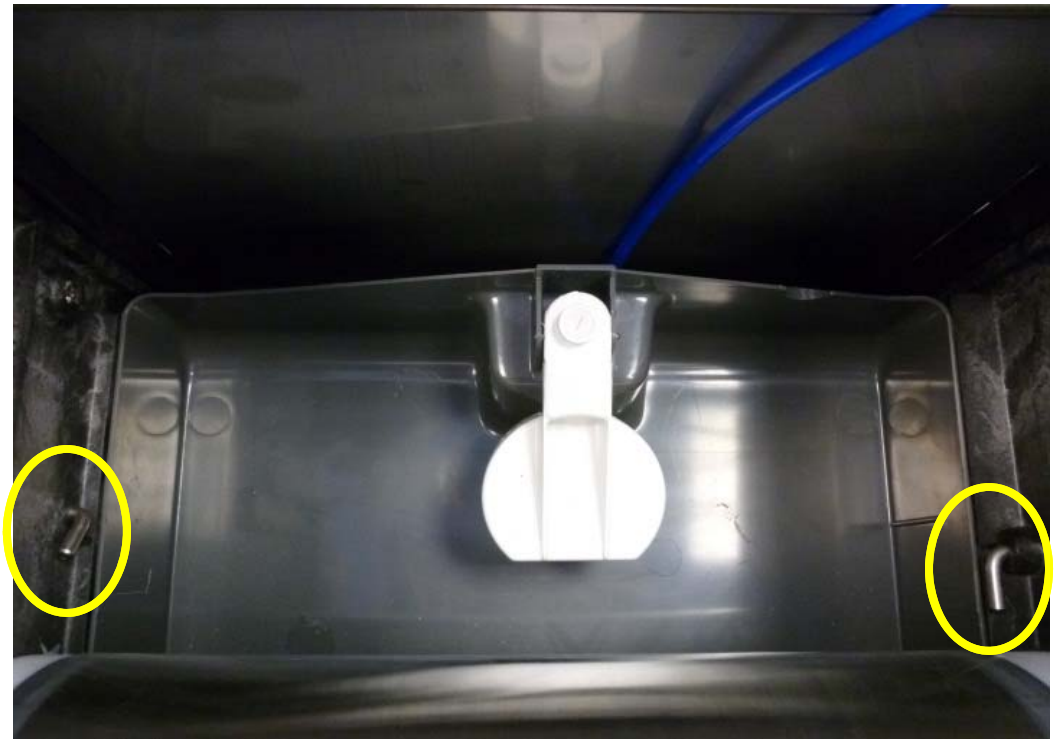
MAINTENANCE

6. Unloose water pump bracket and slide it off thus to remove the water pump



MAINTENANCE

7. Push in and turn two metal pins in order to let the water reservoir free for removal (not for MAR 2 & 3 series since made by s.s)



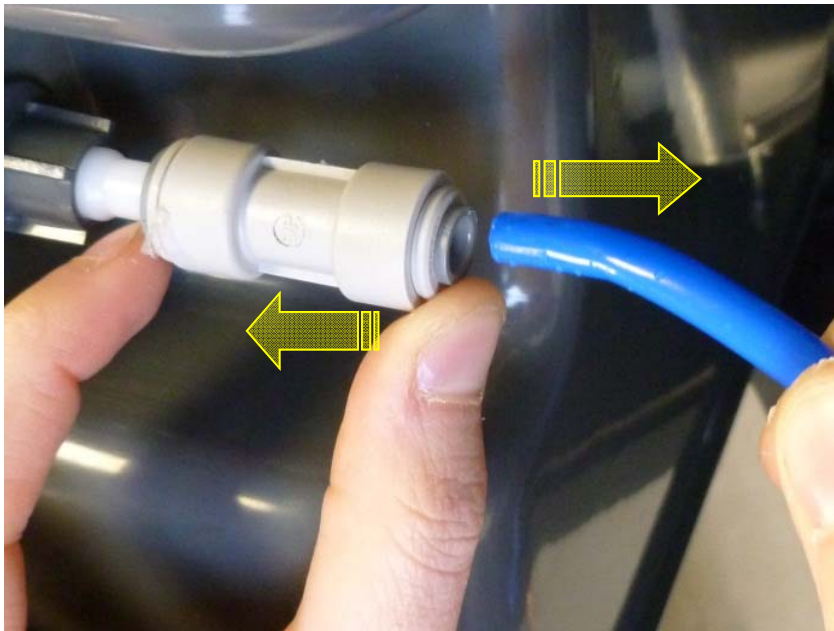
MAINTENANCE



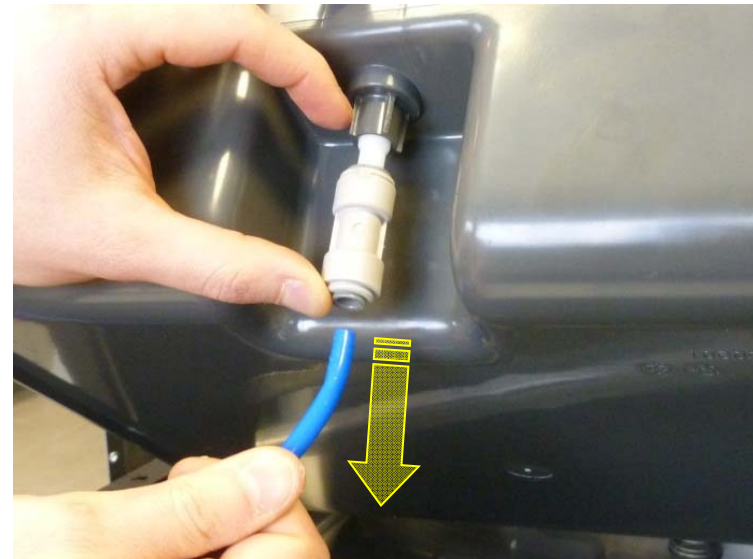
8. Carefully bend and pull the plastic reservoir out from evaporator sink



MAINTENANCE



9. Push in the John Guest quick fitting ring and disconnect water inlet hose from float valve reservoir nozzle

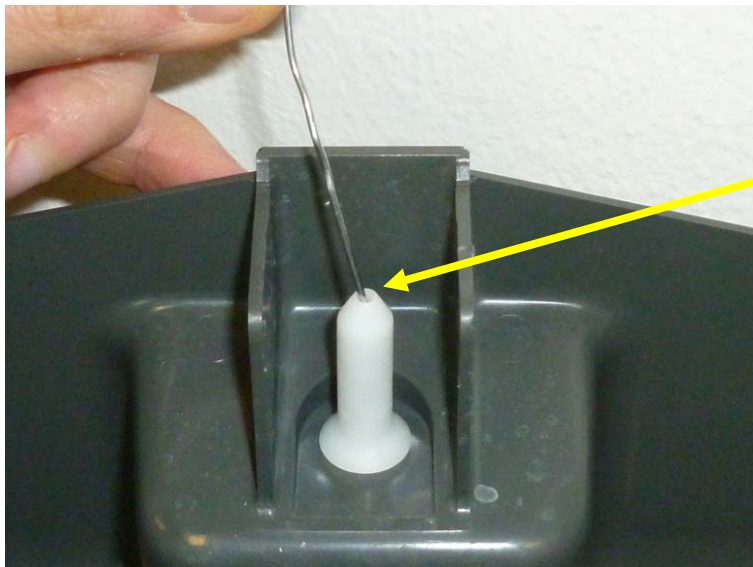


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MAINTENANCE



10. By the mean of a flat screw driver open little bit the float valve arms and release it from its seat



11. Check orifice cleaning condition

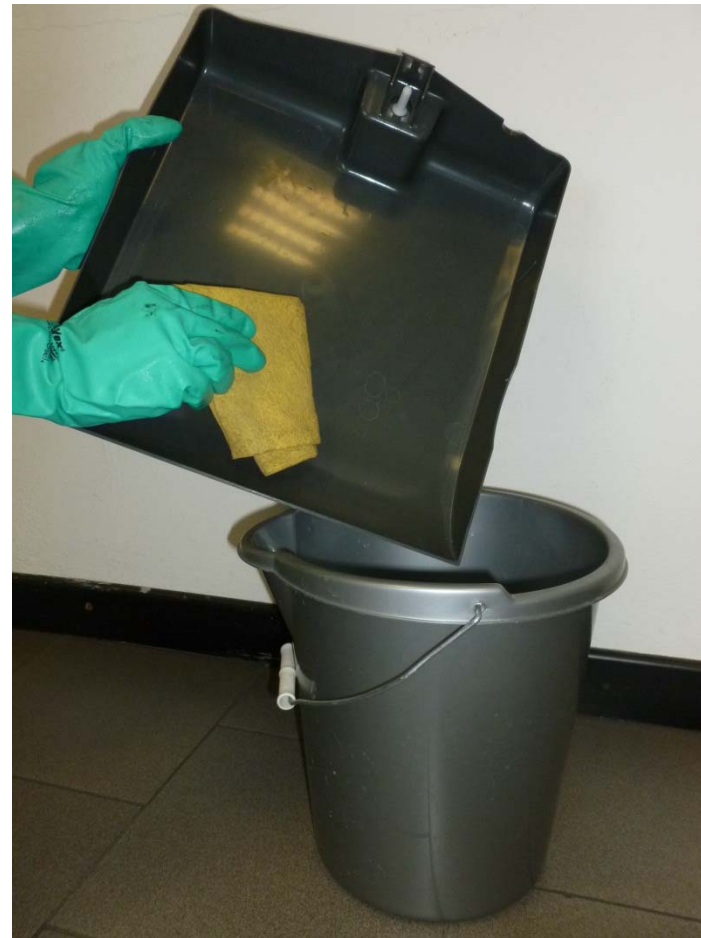
MAINTENANCE

12. Prepare in a bucket de-scaling solution by mixing 10 lt of lukewarm water (max. 40°C) and 1 lt of SCOTSMAN cleaner



MAINTENANCE

13. Wash water reservoir by mixed solution by sponge and / or brush.



MAINTENANCE

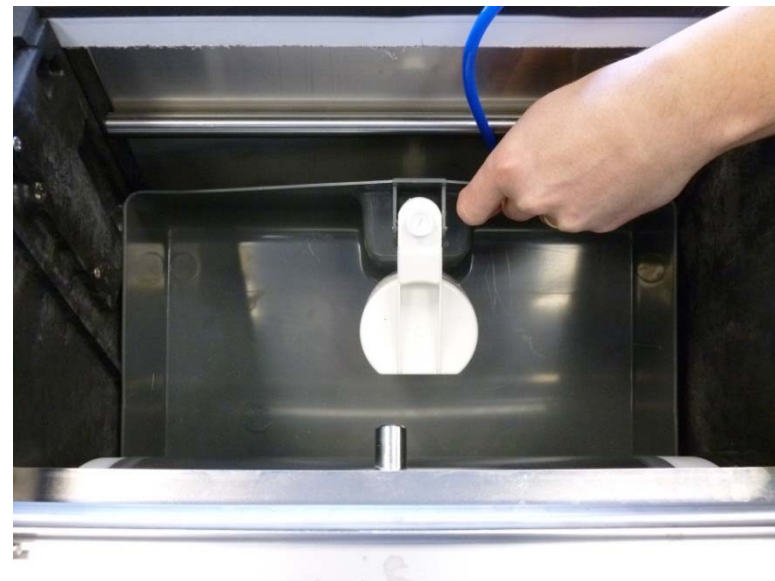
14. Carefull rinse the
same by fresh water



MAINTENANCE

15. Re-install water float
valve and water inlet hose

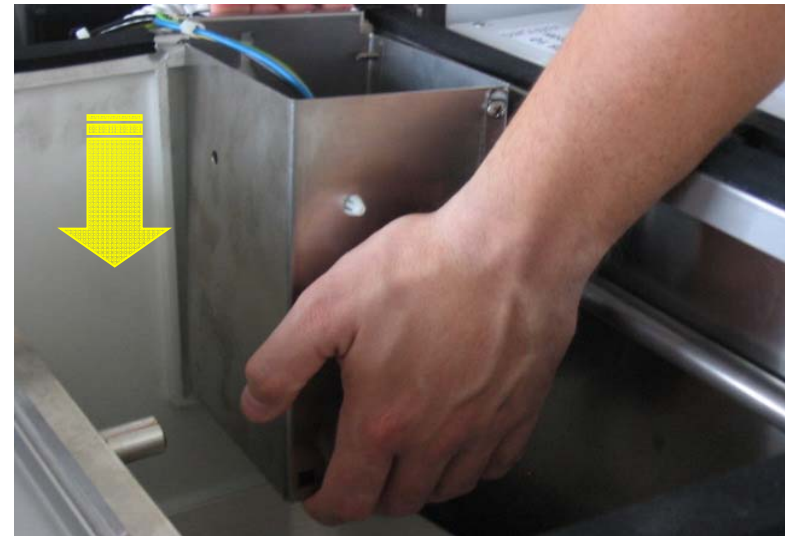
16.....then water reservoir



MAINTENANCE

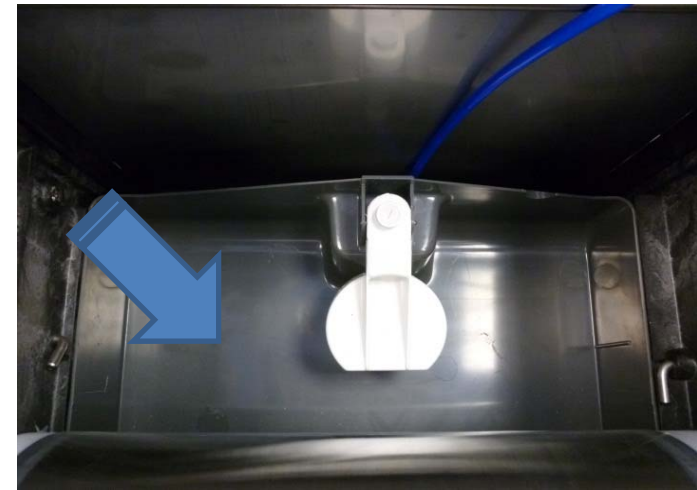
17. Re-install water pump

18. Connect back again the spray system inlet hose and assure the same by related clamp



MAINTENANCE

19. Slowly pour de-scaling solution from bucket into the water reservoir being assure it will reach max cm from reservoir rim



20. Turn the unit ON and let the unit in operation for about 15 minutes; during this time only water pump is in operation



MAINTENANCE

21. Once 15 minutes are elapsed
turn the unit OFF back again

22. Repeat again procedure from #5
to # 9 the empty the reservoir by
de-scaling solution afterward
RINSE carefully by fresh





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MAINTENANCE

23. Re-install all removed parts on reverse from # 9 to # 5

24. Repeat #12 and prepare sanitizing solution as:

MAR 56 → 126 e MAR 78 → 128

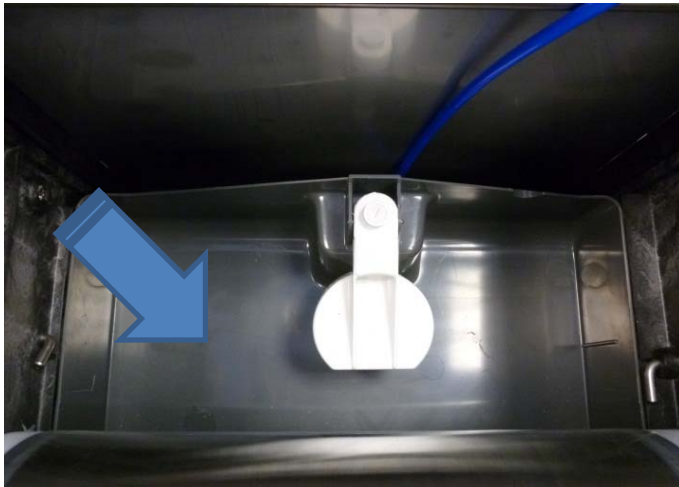
1,5 cl sanitizing solution and 5 lt lukewarm water

Mar 206-306 & 208-308

3 cl di saniting solution and 10 lt lukewarm water

MAINTENANCE

25. Pour sanitizing solution carefully in the reservoir



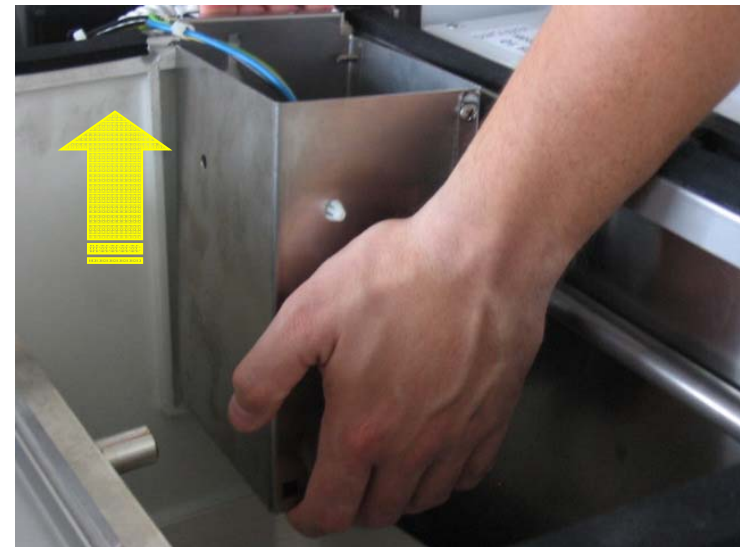
NOTE. NEVER mix de-scaling solution and sanitizing solution since it will produce an acid dangerous solution

MAINTENANCE

26. Turn the unit ON and let the unit operating for about 10 minutes

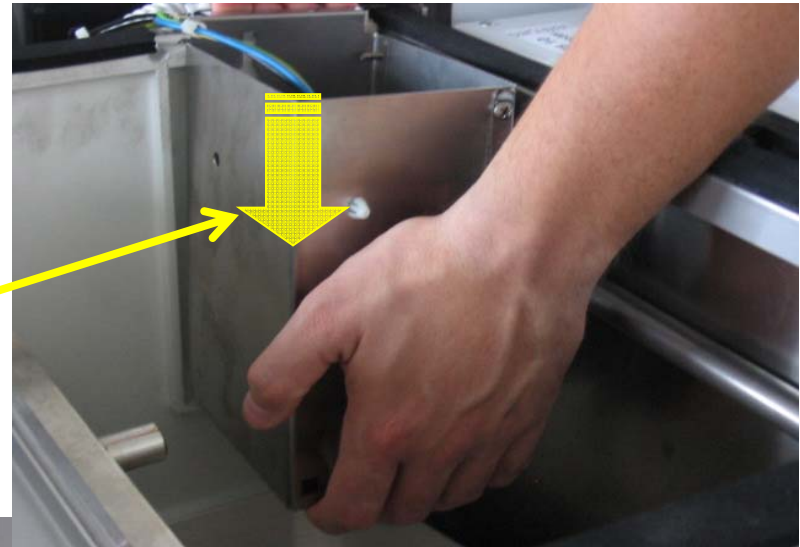
27. Repeat from # 5 to # 8

28. Leave the water sump up for a while thus to have enough space to bend little bit reservoir and empty the same by sanitizing solution and re-locate the same in its proper position



MAINTENANCE

29. Install back again
water pump e water hose



30. Open water tap





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MAINTENANCE

After having completed de-scaling and sanitizing it is imperative to waste ice produced during first 20 minutes thus to avoid any chemical contamination

ATTENTION

**NEVER USE ICE PRODUCED BY DE-SCALING AND
SANITIZING SOLUTION IN ORDER TO AVOID ANY
CONTAMINATION AND BE ASSURED THAT NO
PIECES REACH THE BIN**



NEW MAR SERIES
COMPACT & SPLIT

ADJUSTMENT OF WATER LEVEL

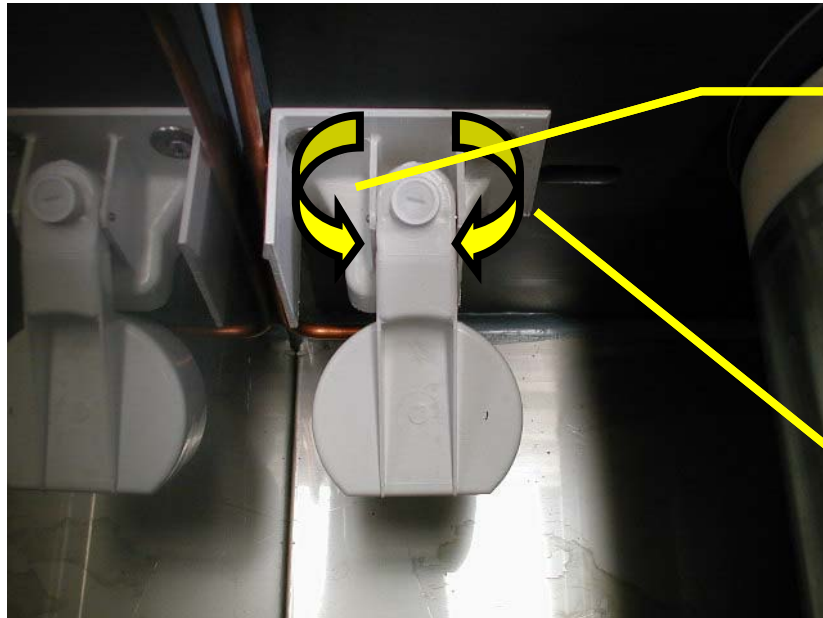
WATER LEVEL ADJUSTMENT



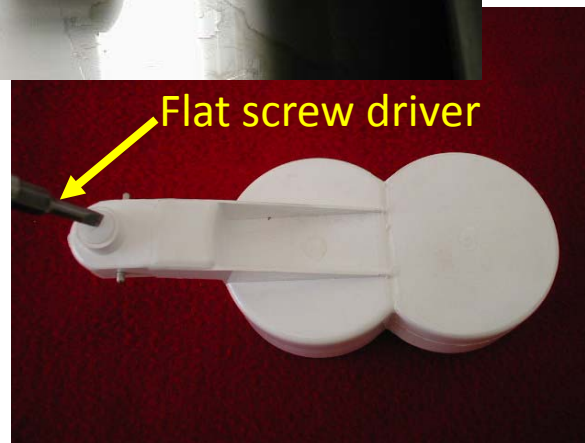
- Remove top panel
- Remove evaporator cover



WATER LEVEL ADJUSTMENT



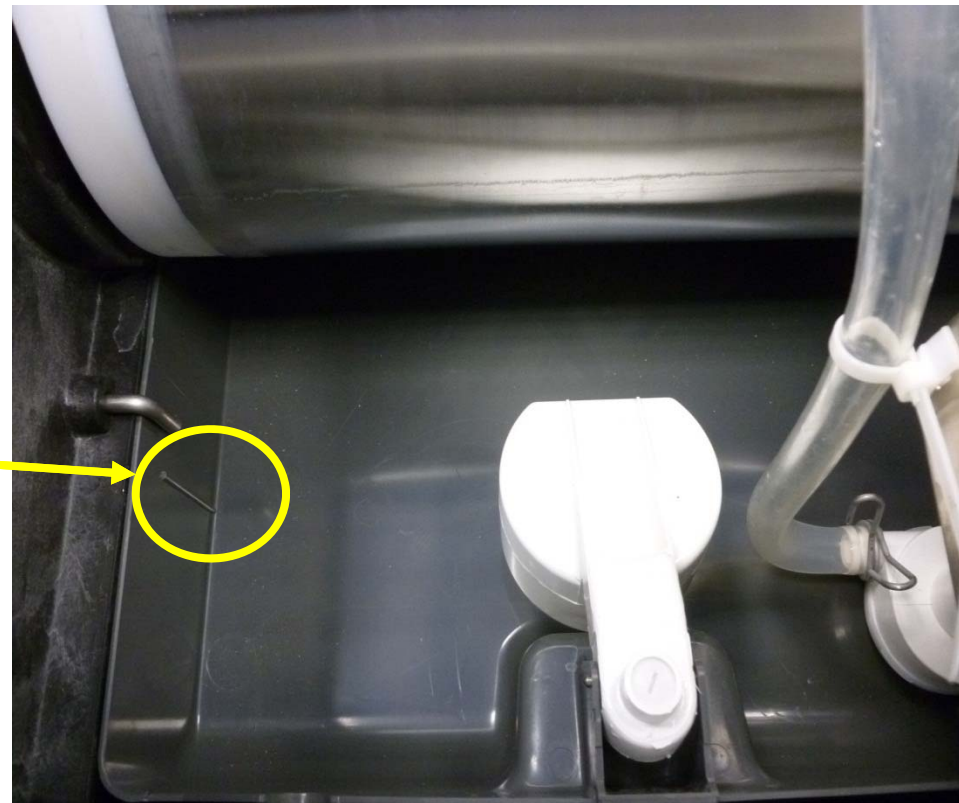
- Turn counterclockwise the grooved screw located at the center of the float valve to increase water level..
- Turn clockwise the grooved screw to decrease water level



WATER LEVEL ADJUSTMENT

Water level setting approx **50 mm** also marked by plastic mold :

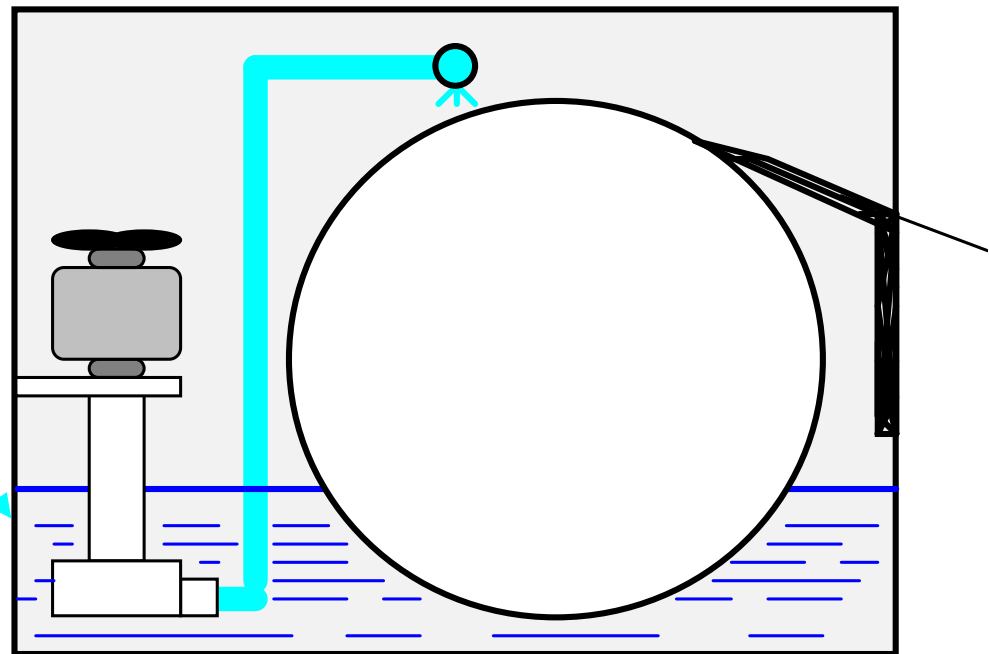
- MAR 56 → 126
- MAR 78 → 128



WATER LEVEL ADJUSTMENT

Almost 90/95 mm for :

- **MAR 206 & 306**
- **MAR 208 & 308**





NEW MAR SERIES
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MONITORING ALARMS

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MONITORING PANEL

Front metal plate is
equipped by some lamps
monitoring unit operating
condition/alarms



MONITORING PANEL

- HI discharge pressure
- LOW suction pressure
- LOW water pressure
- Bin full
- Ice spout switch open
- Compressor protector
- Phases seq. ctrl
- Drive motor thermal protection /
evap rotation control



MONITORING PANEL

- Low water pressure
- Bin thermostat open
- Ice spout switch open
- Seq. Phases ctrl
- Drive motor thermal protection / Evaporator Rotation control



INTERVENTO PROT. TERMICO
MOTORE RIDUTTORE
GEAR MOTOR THERMAL
PROTECTOR CUT-OUT
INTERVENTION PROTECTION
THERM. MOTEUR REDUCTEUR

INTERVENTO CONTROLLO
ROTAZIONE
SLOW/NO DRUM
ROTATION
COUPURE CONTR.
ROTATION



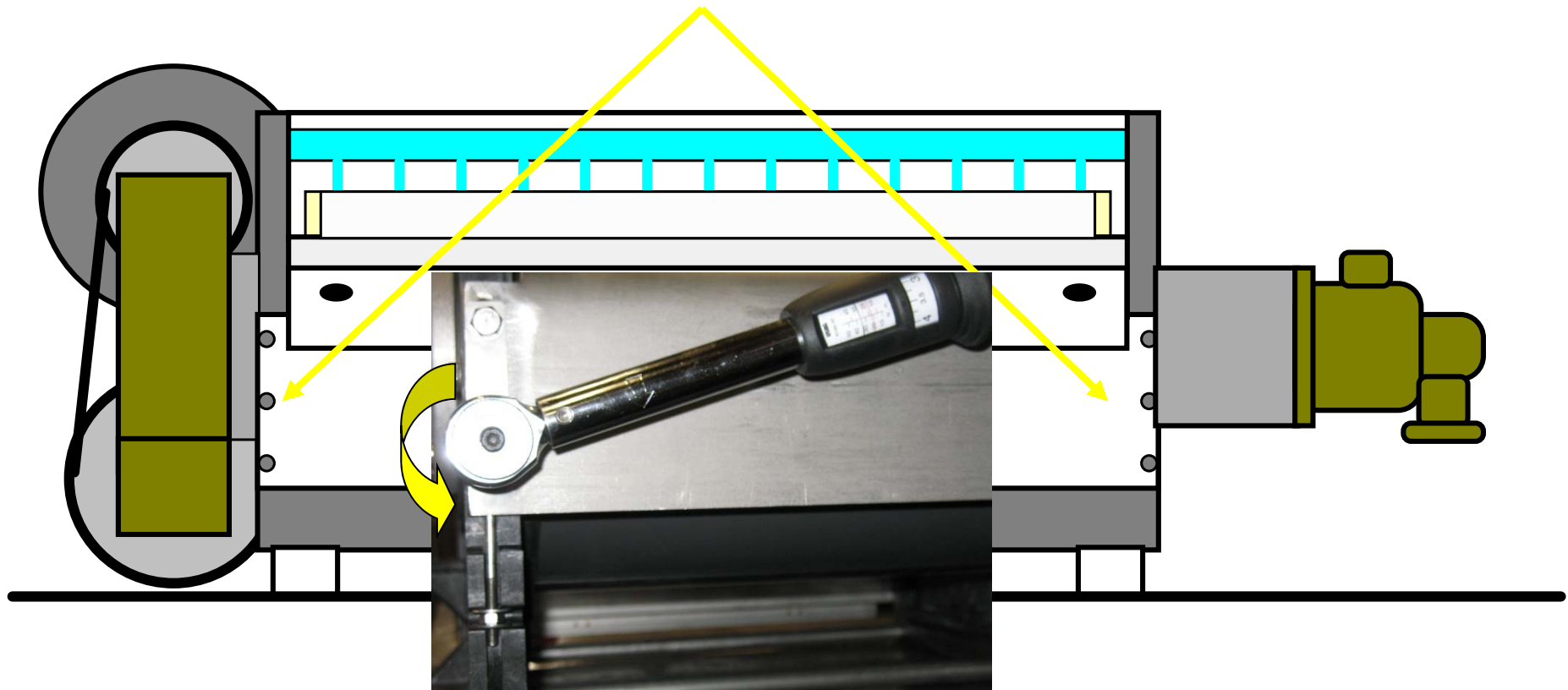
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ADJUSTMENT OF SCRAPING BLADE CLEARANCE

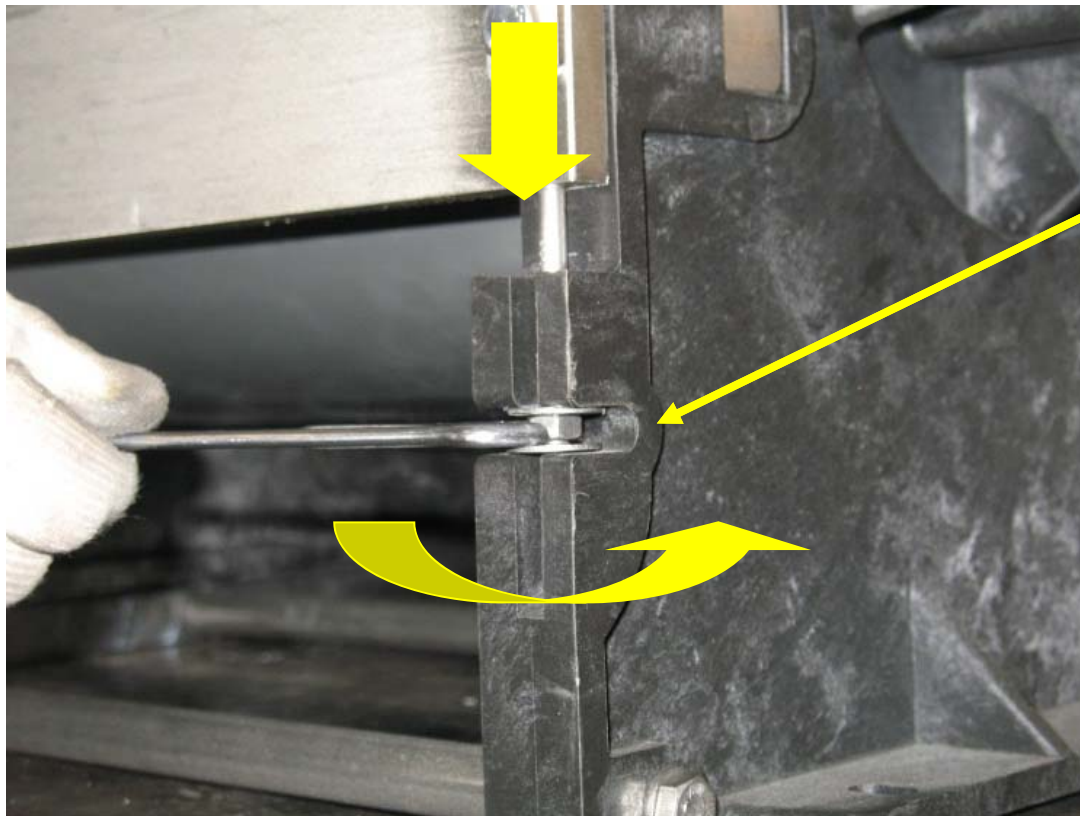
INSTRUCTION FOR REMOVAL AND
REPLACEMENT

SCRAPING BLADE ADJUSTMENT

Unloose a little bit the four or six screws holding the front portion of the scraping blade to the two side wall of the evaporator basin.



SCRAPING BLADE ADJUSTMENT

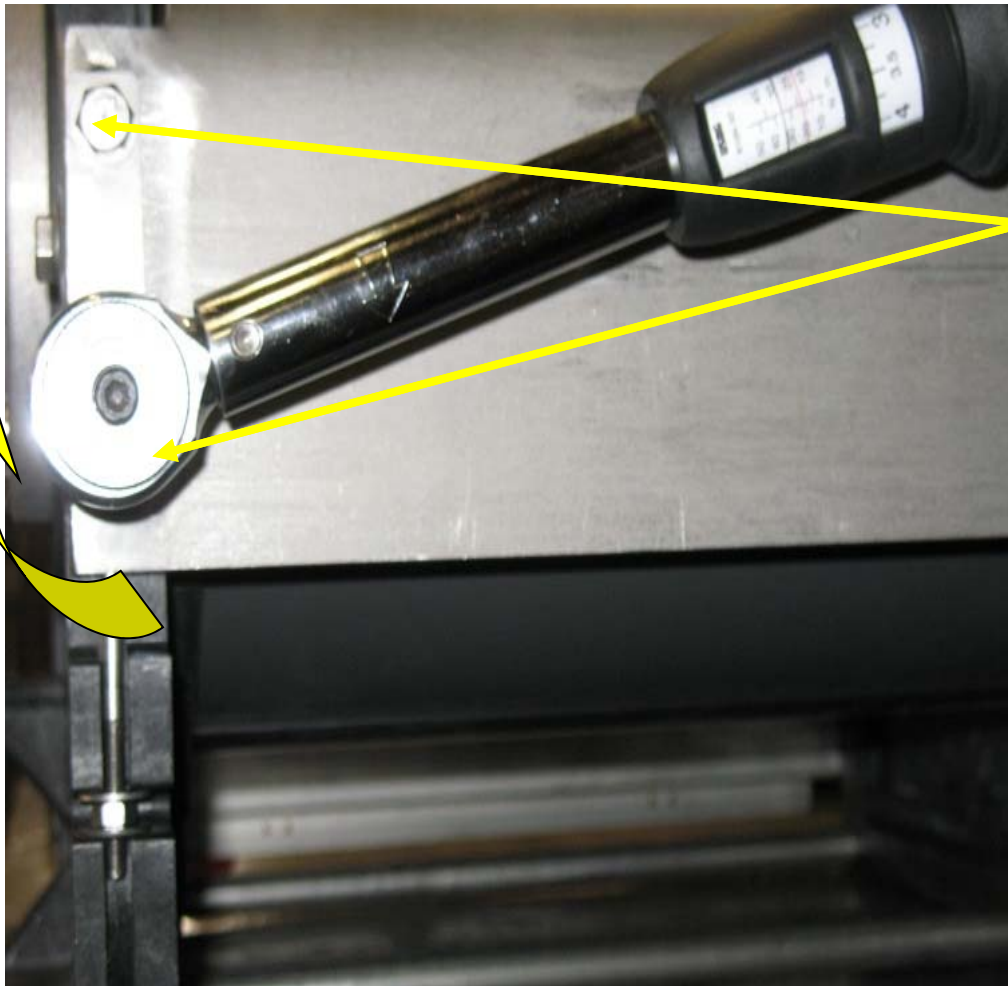


Check and adjust
clearance between
blade and drum by
means of adjusting
nuts then...



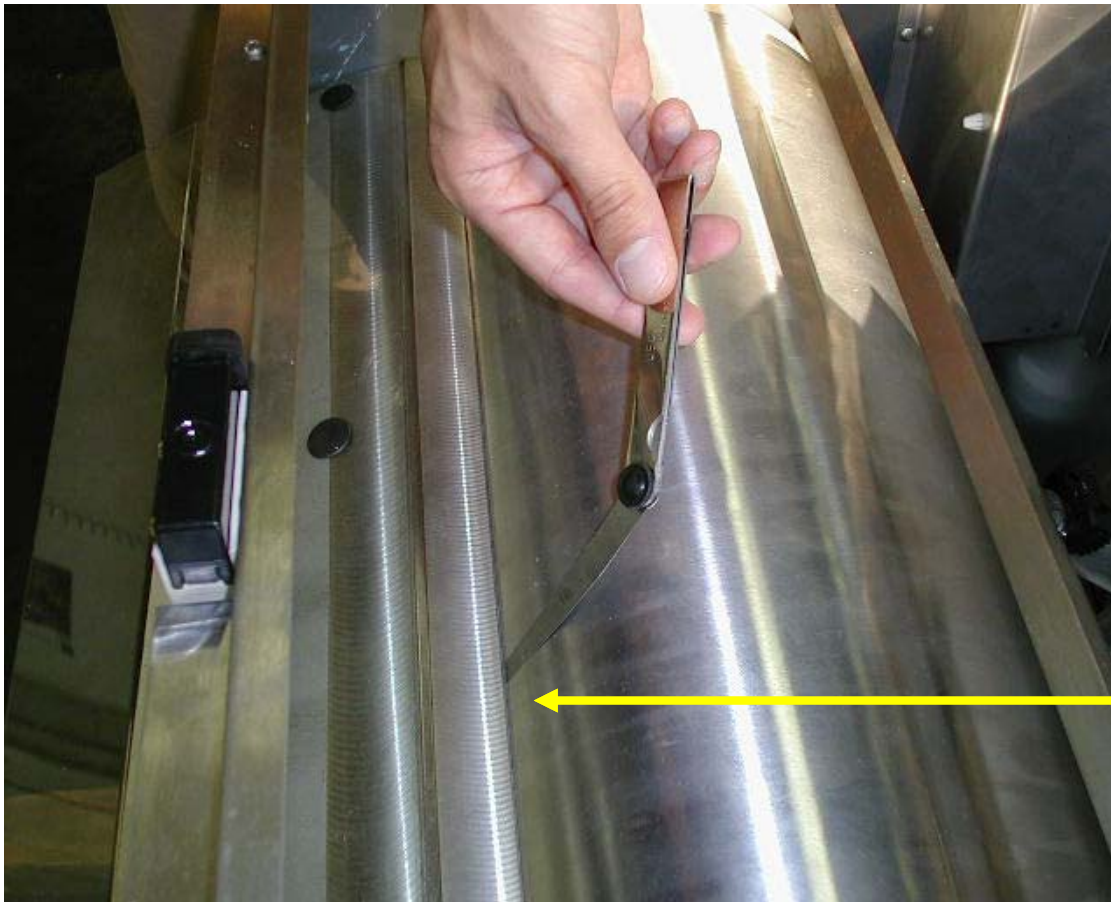
NEW MAR SERIES COMPACT & SPLIT

SCRAPING BLADE ADJUSTMENT



.....then tighten again
the holding screws.

SCRAPING BLADE ADJUSTMENT



Check for correct
clearance must be

between 0.1 and 0.15

mm with scraping

blade holding screws

tighten

GEAR BOX and FIBER KEYS

INSTRUCTION FOR REMOVAL AND
REPLACEMENT



NEW MAR SERIES COMPACT & SPLIT

GEAR BOX AND FIBER KEYS



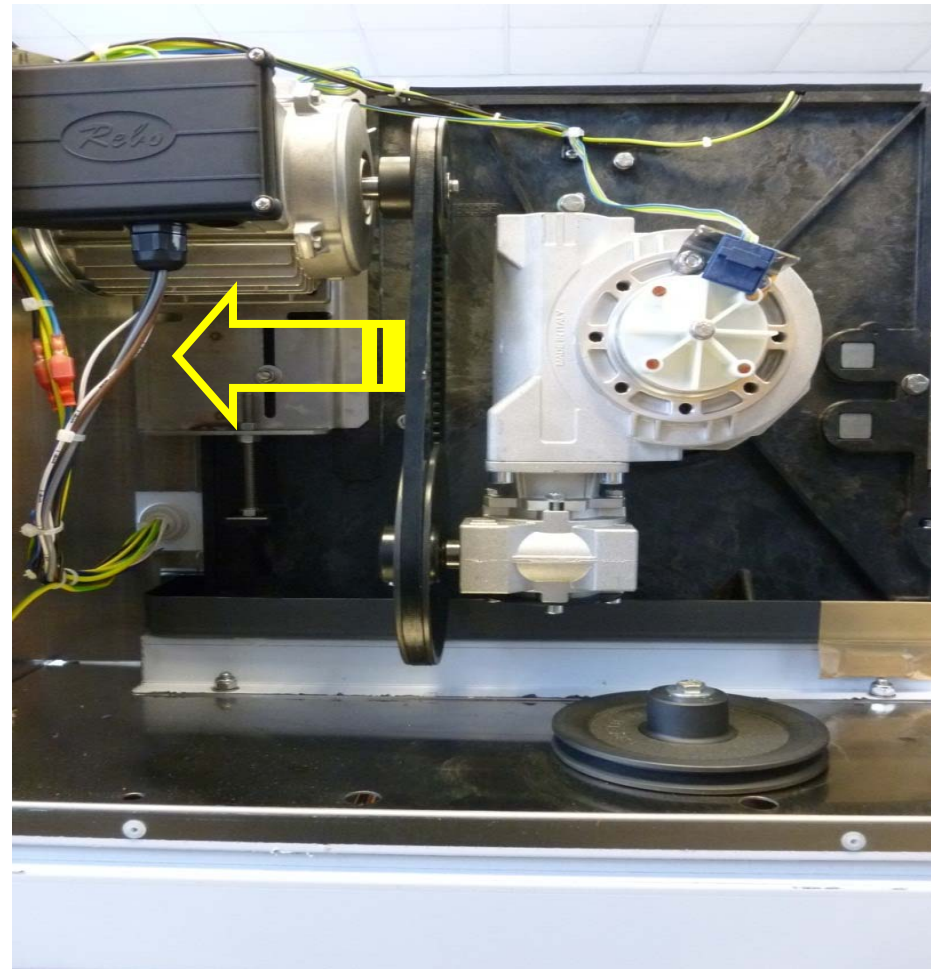
Remove screws
and front, top
and right side
panels.



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GEAR BOX AND FIBER KEYS

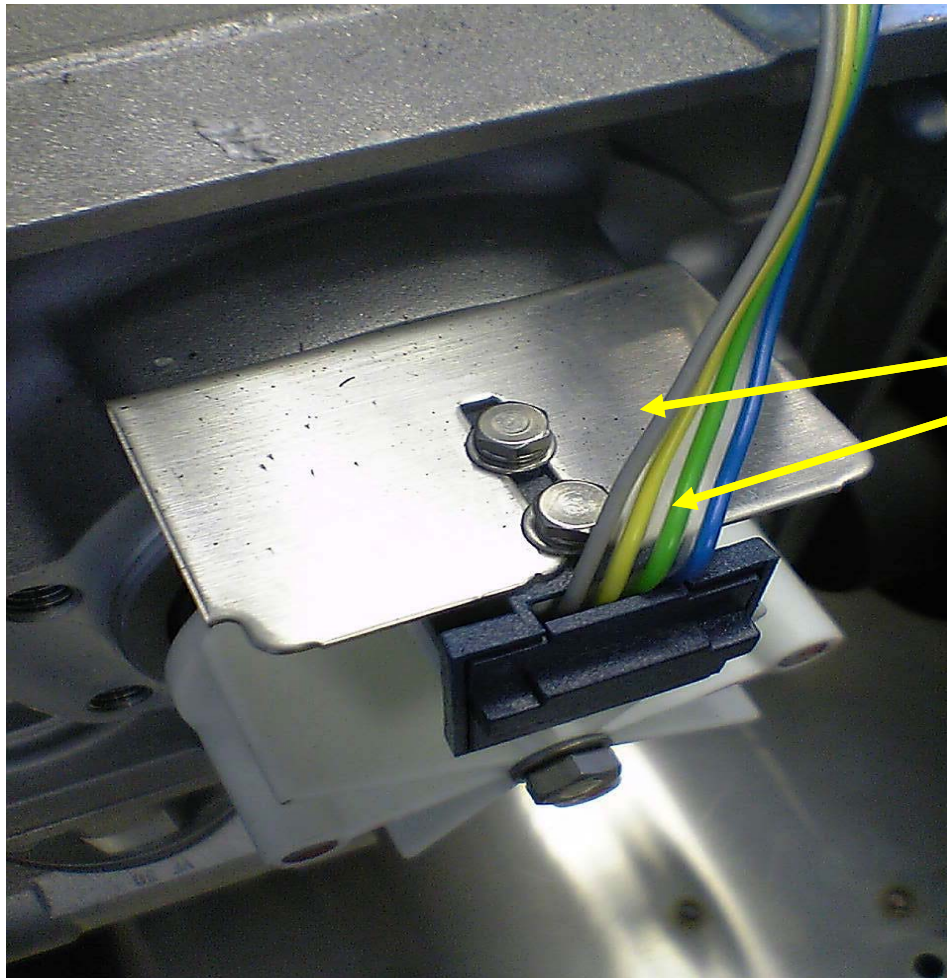
Slide-off V Belt
from gear box
pulley.





NEW MAR SERIES COMPACT & SPLIT

GEAR BOX AND FIBER KEYS

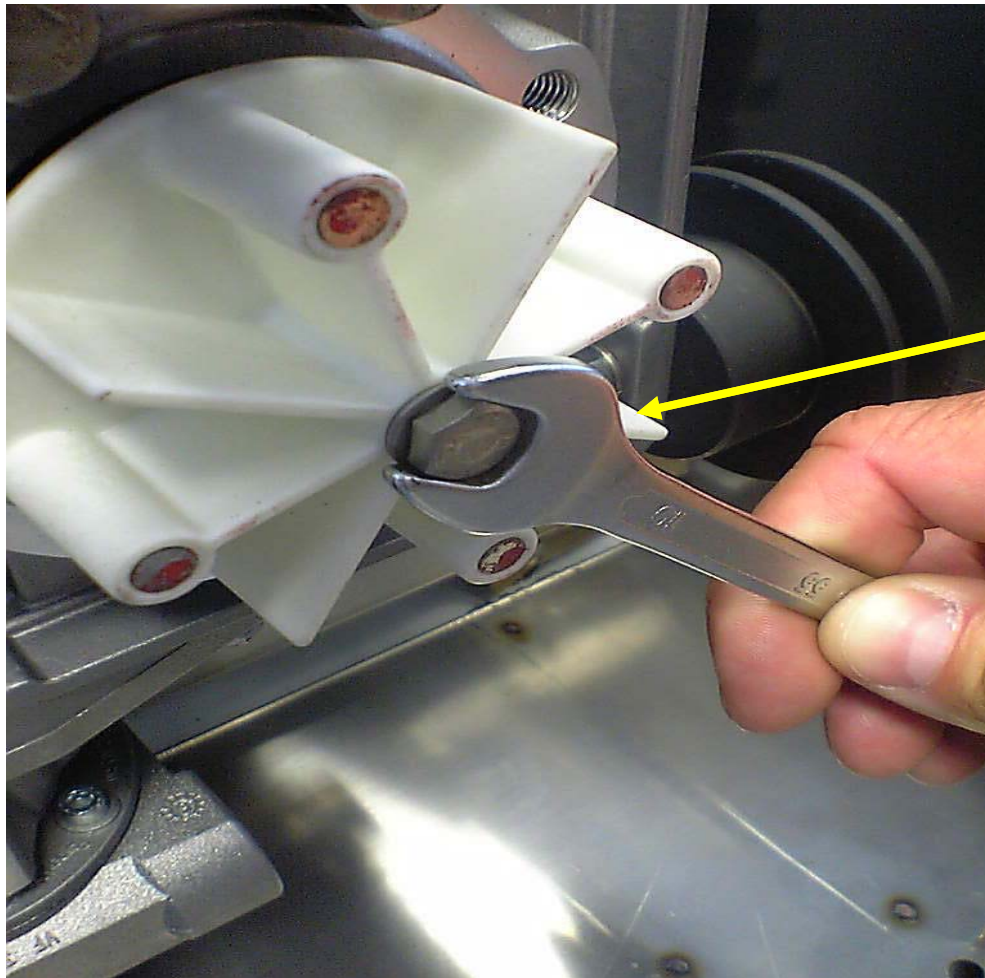


Remove effect

hall sensor

bracket screws

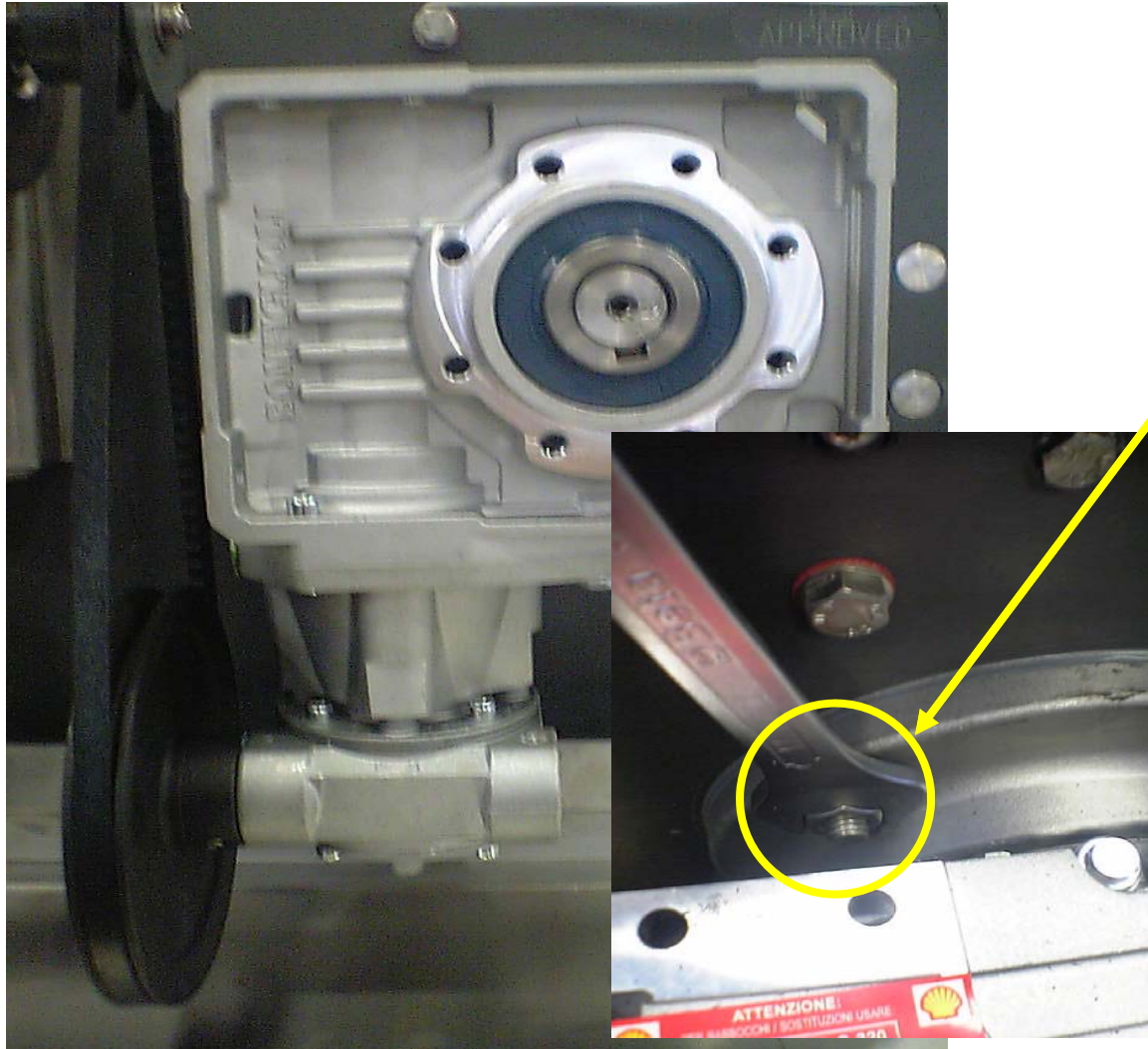
GEAR BOX AND FIBER KEYS



Remove effect hall

sensor screw

GEAR BOX AND FIBER KEYS



Remove four
nuts and
washers with
secure the gear
box to the
evaporator
basin side
frame.

GEAR BOX AND FIBER KEYS



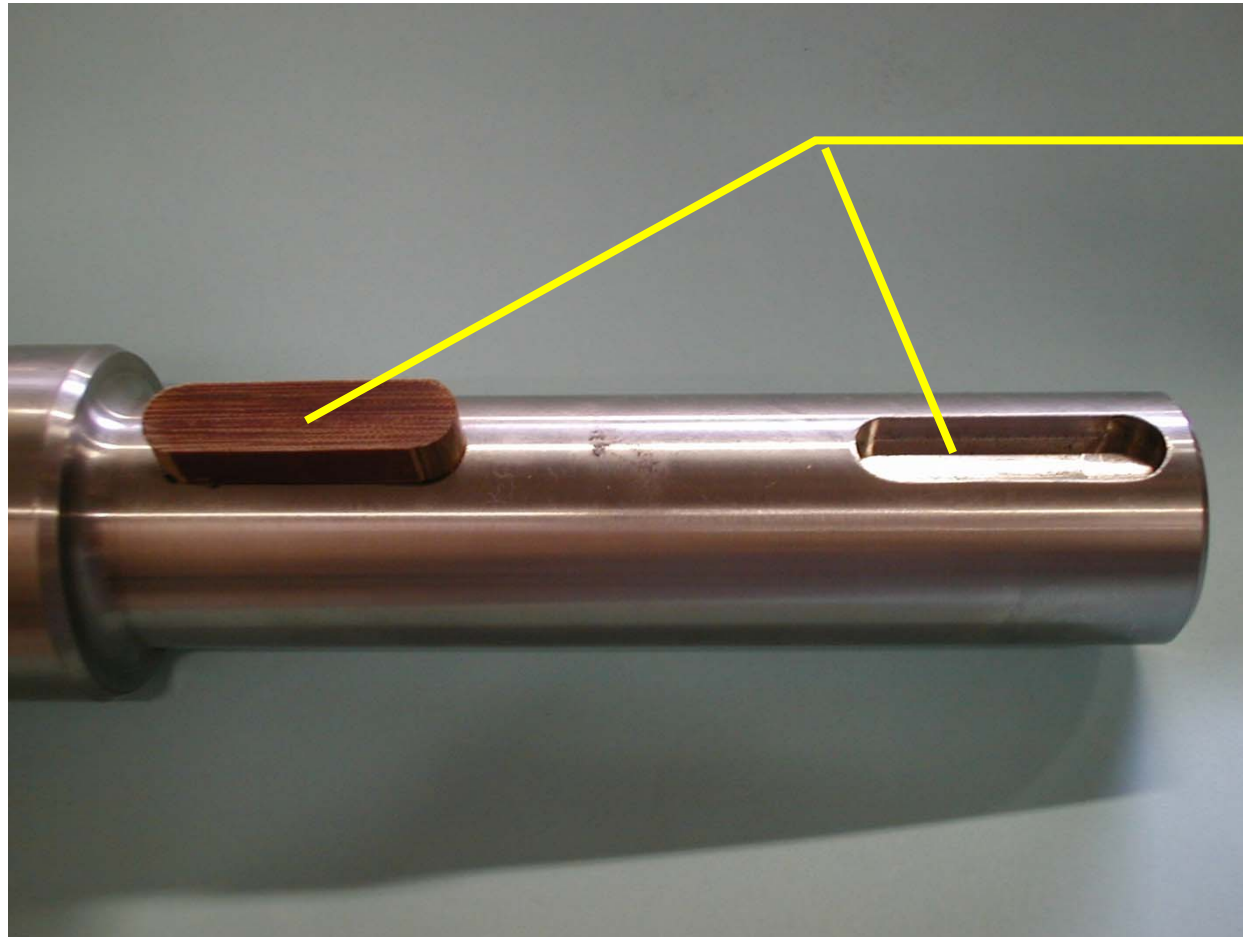
With a mallet,
hit a bit the
gear box to
create some
looseness.

Then remove it
with a proper
puller.



NEW MAR SERIES COMPACT & SPLIT

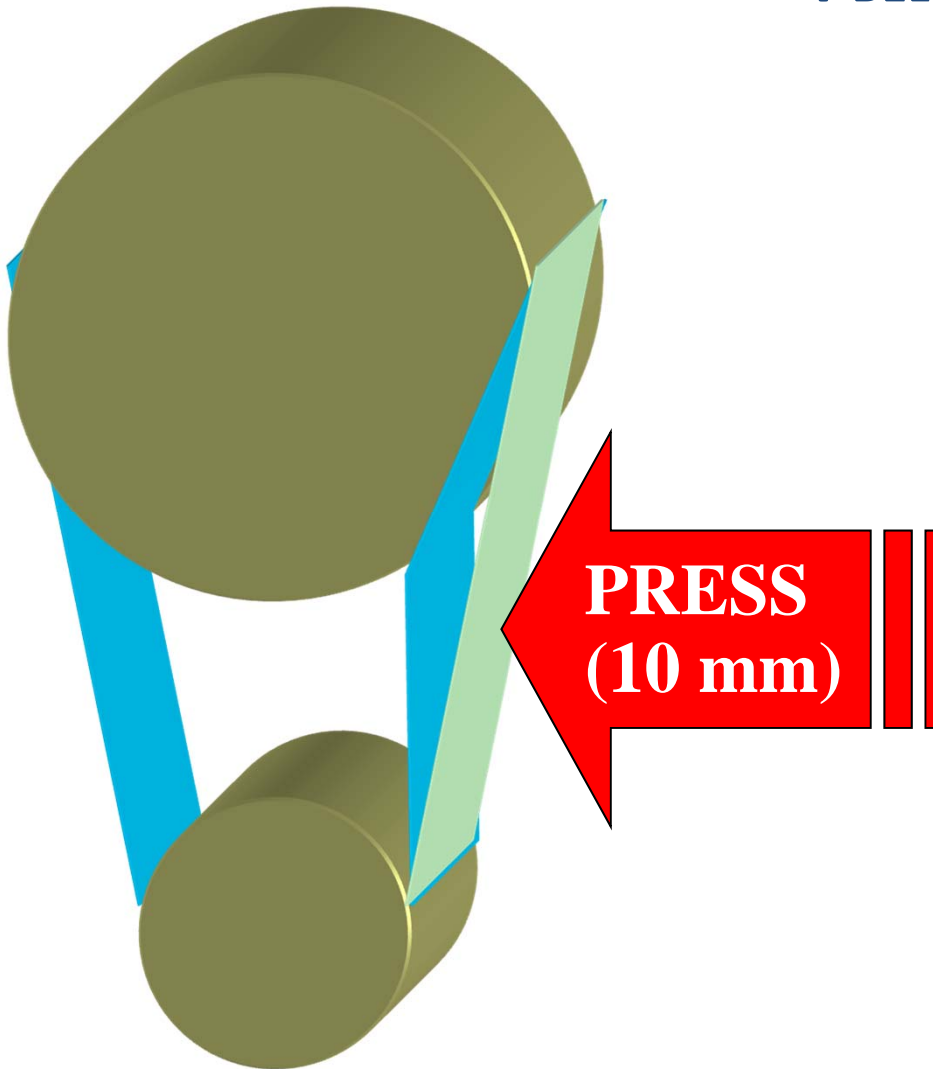
GEAR BOX AND FIBER KEYS



Locate the
two fiber
keys and
replace with
new ones.

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V BELT



- Used on motor shaft pulley and gear box
- Changing the V-belt from one groove to another, pay attention to adjust it for proper tension and alignment.



NEW MAR SERIES
COMPACT & SPLIT

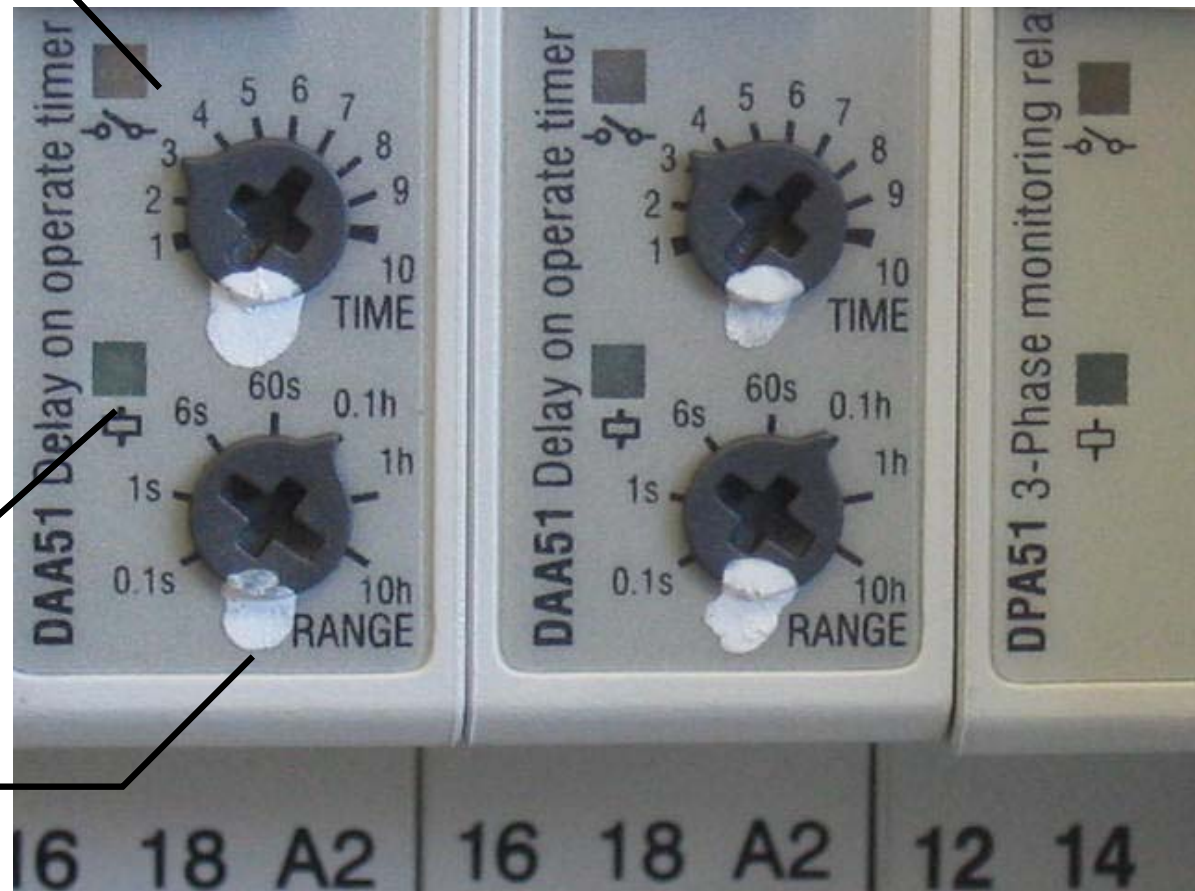
TIME DELAYS SETTING

TIME DELAY

Example : by keeping time to «3» and range setting to 0.1 hr which means 6 minutes total delay timer is $6 \times 3 = 18$ minutes

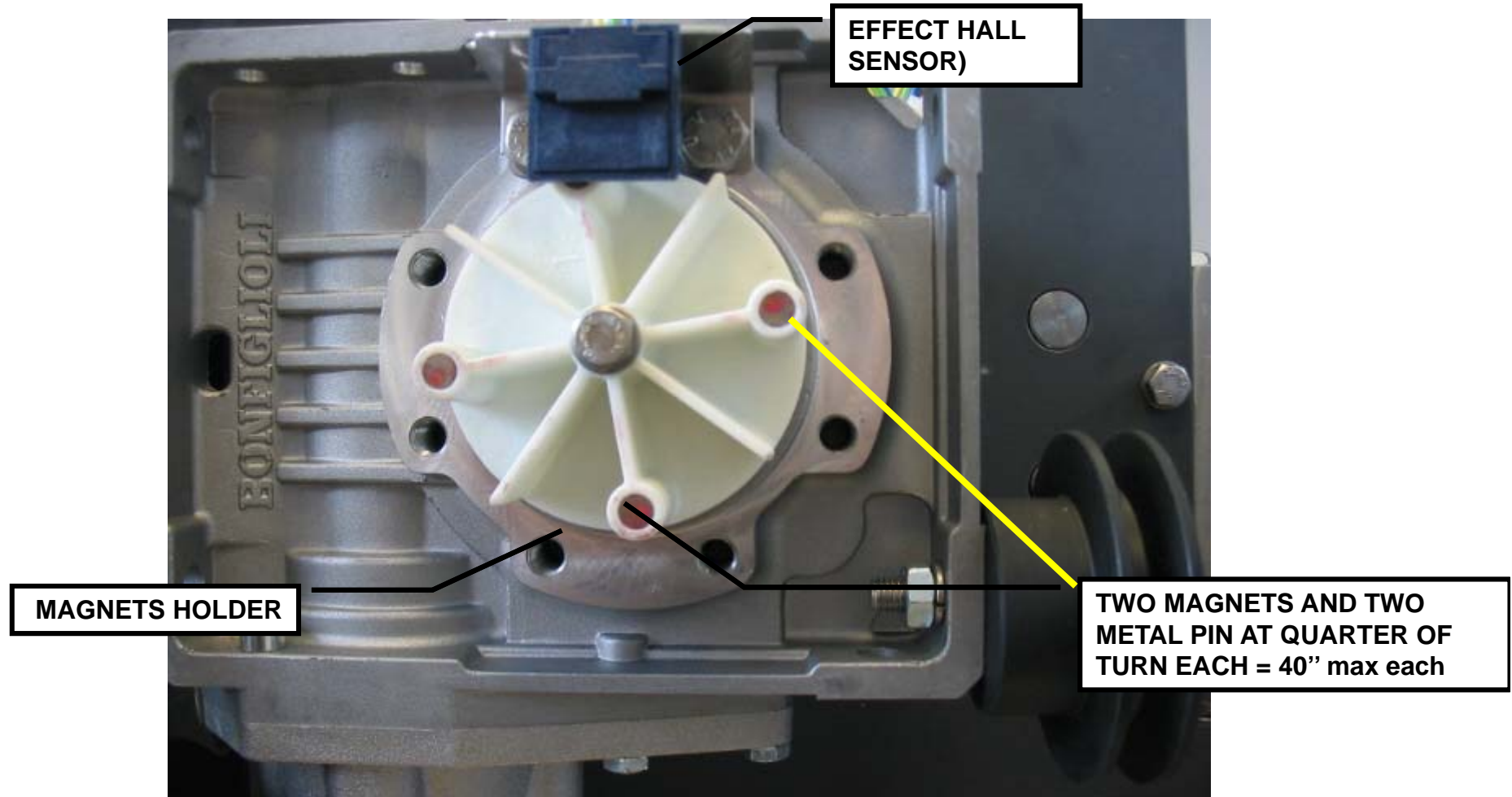
POWER ON

0.1 sec to 10 hr range setting



BOTH TIME DELAY at 18 minutes setting

EVAPORATOR ROTATION CONTROL



REFRIGERANT MECHANISM

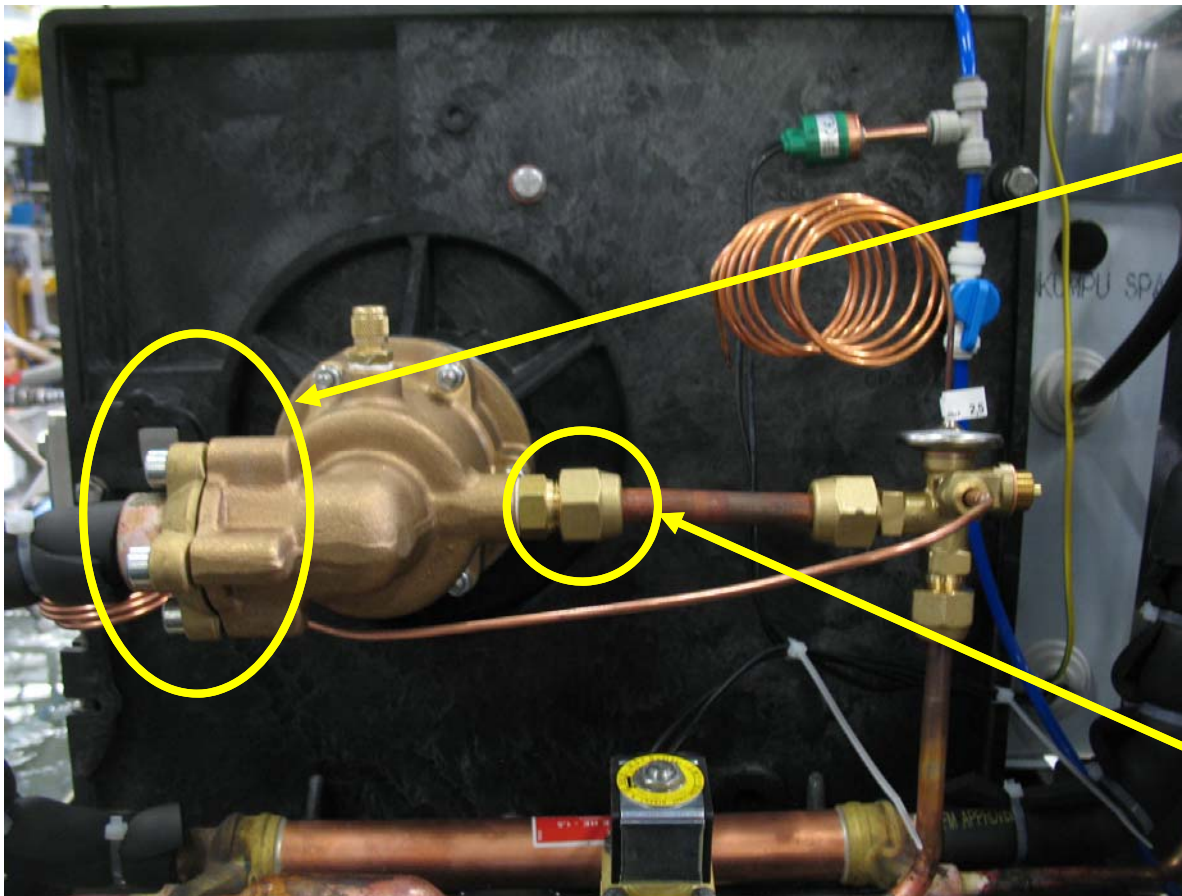
INSTRUCTION FOR REMOVAL AND
REPLACEMENT

Before removing the refrigerant manifold it is necessary first to:



- Recover refrigerant in high side section

SEAL MECHANISM ASSY



Remove the 4 allen screws of refrigerant outlet fitting to manifold and.....

....flared nut from the inlet.

SEAL MECHANISM ASSY



Unloose and remove the 6 nuts and washers securing the refrigerant manifold to the seal mechanism housing.



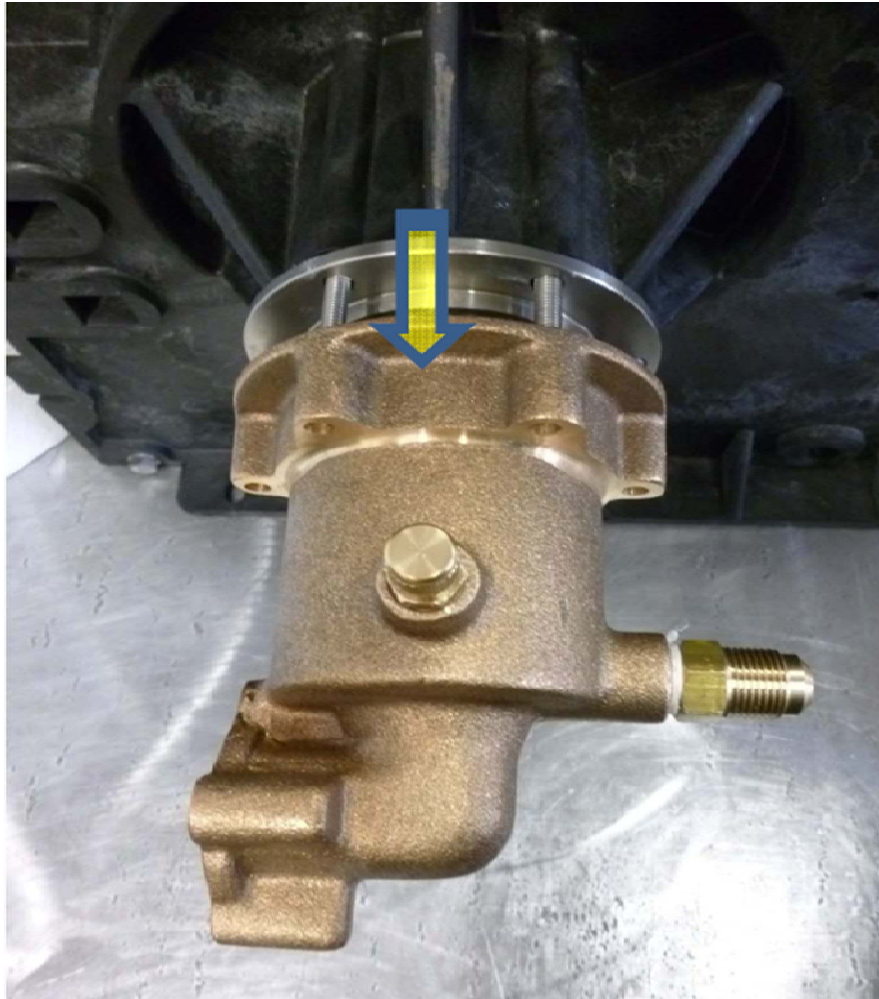
NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



With the help of
two
screwdrivers.....

SEAL MECHANISM ASSY



remove the
refrigerant
manifold from
refrigerant
housing

SEAL MECHANISM ASSY



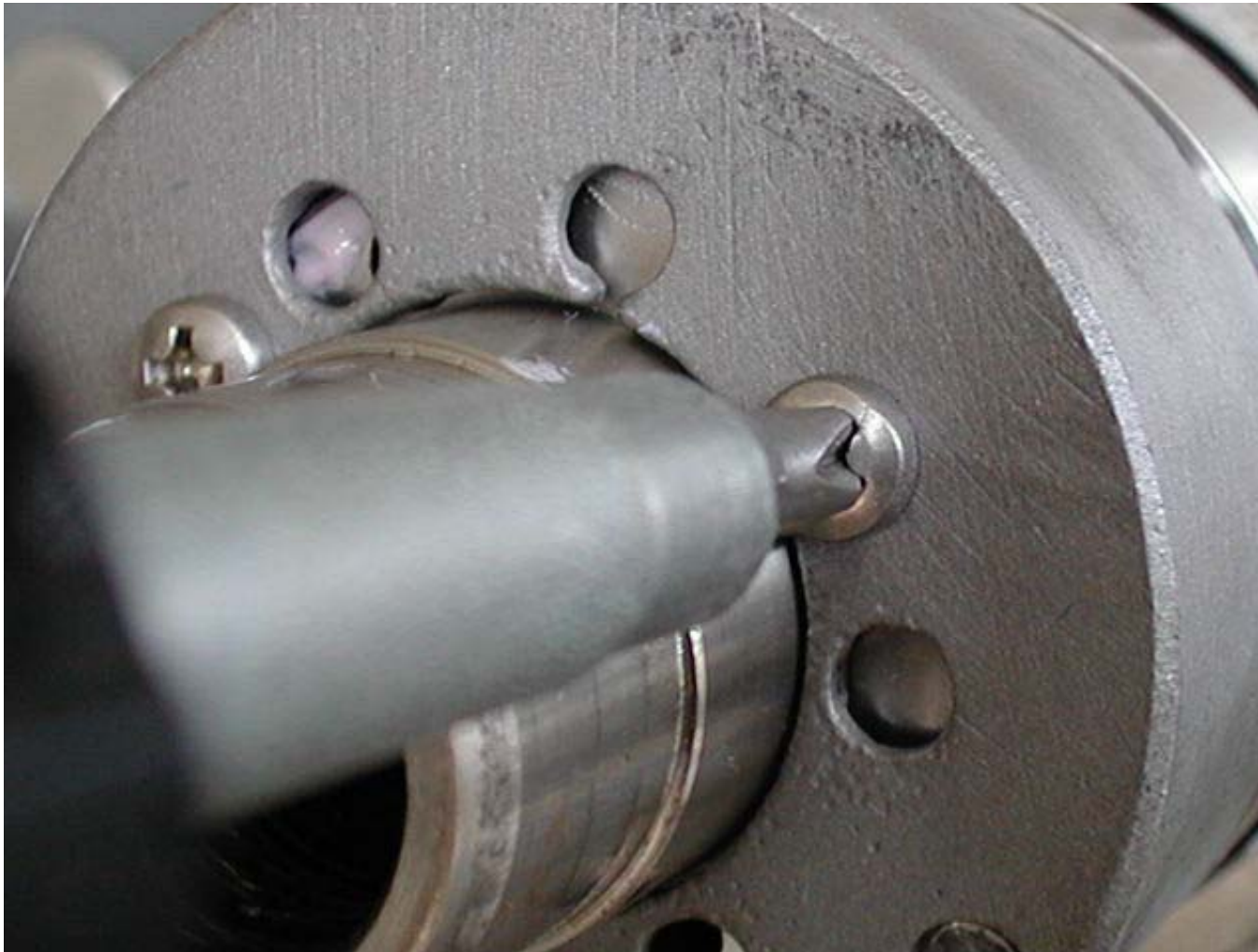
.....remove the seal first,
then ...

SEAL MECHANISM ASSY



.... the washer.

SEAL MECHANISM ASSY

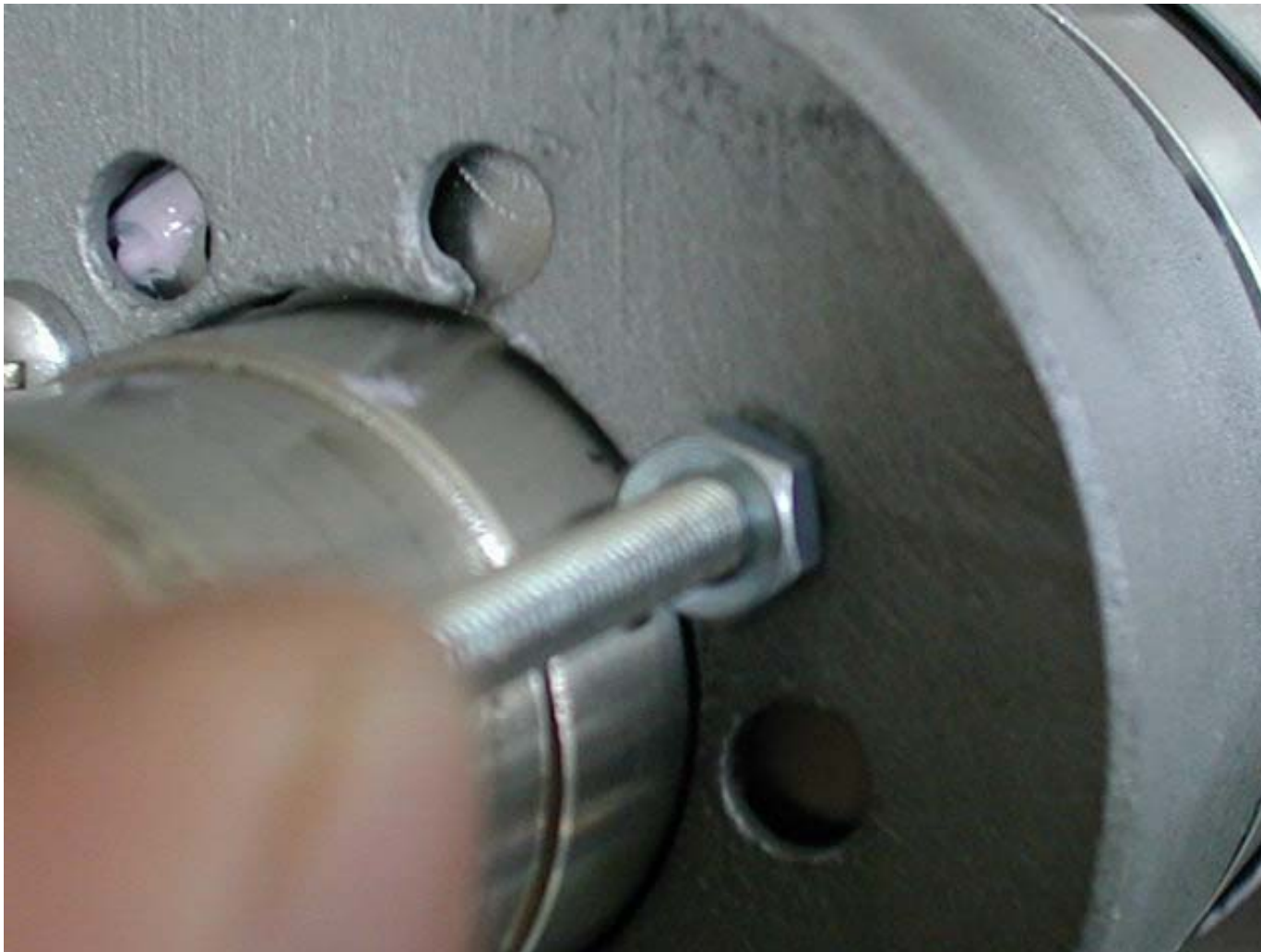


Unloose and
remove one of
the three
screws
securing the
seal
mechanism
ring to the
drum shaft
journal.



NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



Screw in the
long 4 MA
screw and nut
supplied with
the Seal
Mechanism kit.

SEAL MECHANISM ASSY



Gradually
unloose the
nut of the
longer screw
together with
the....

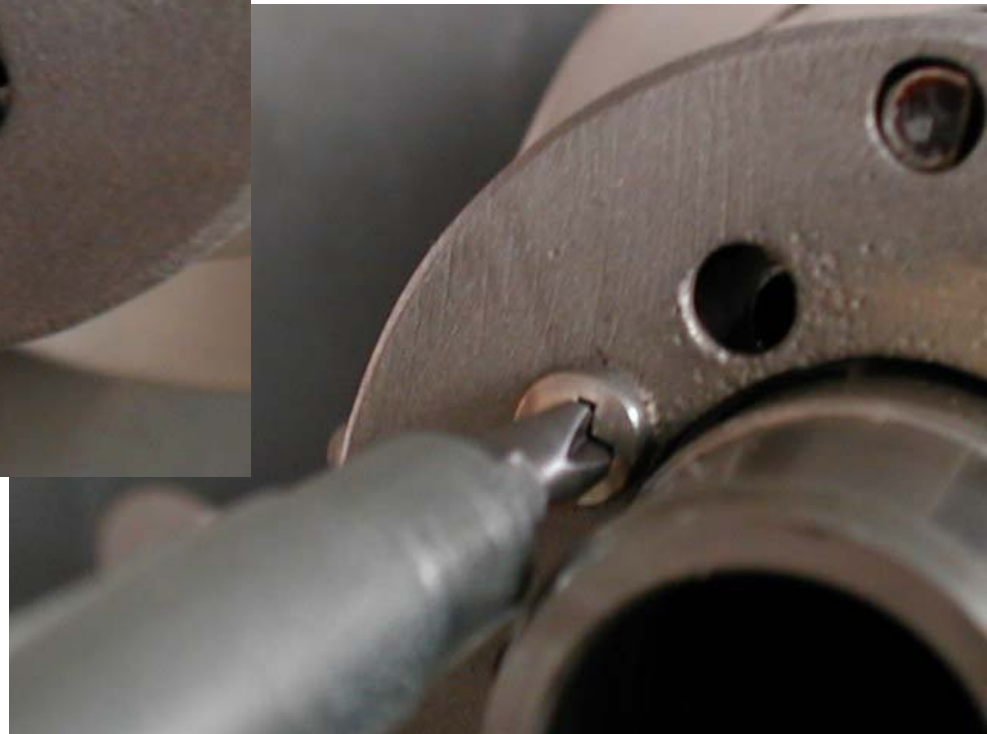


NEW MAR SERIES COMPACT & SPLIT

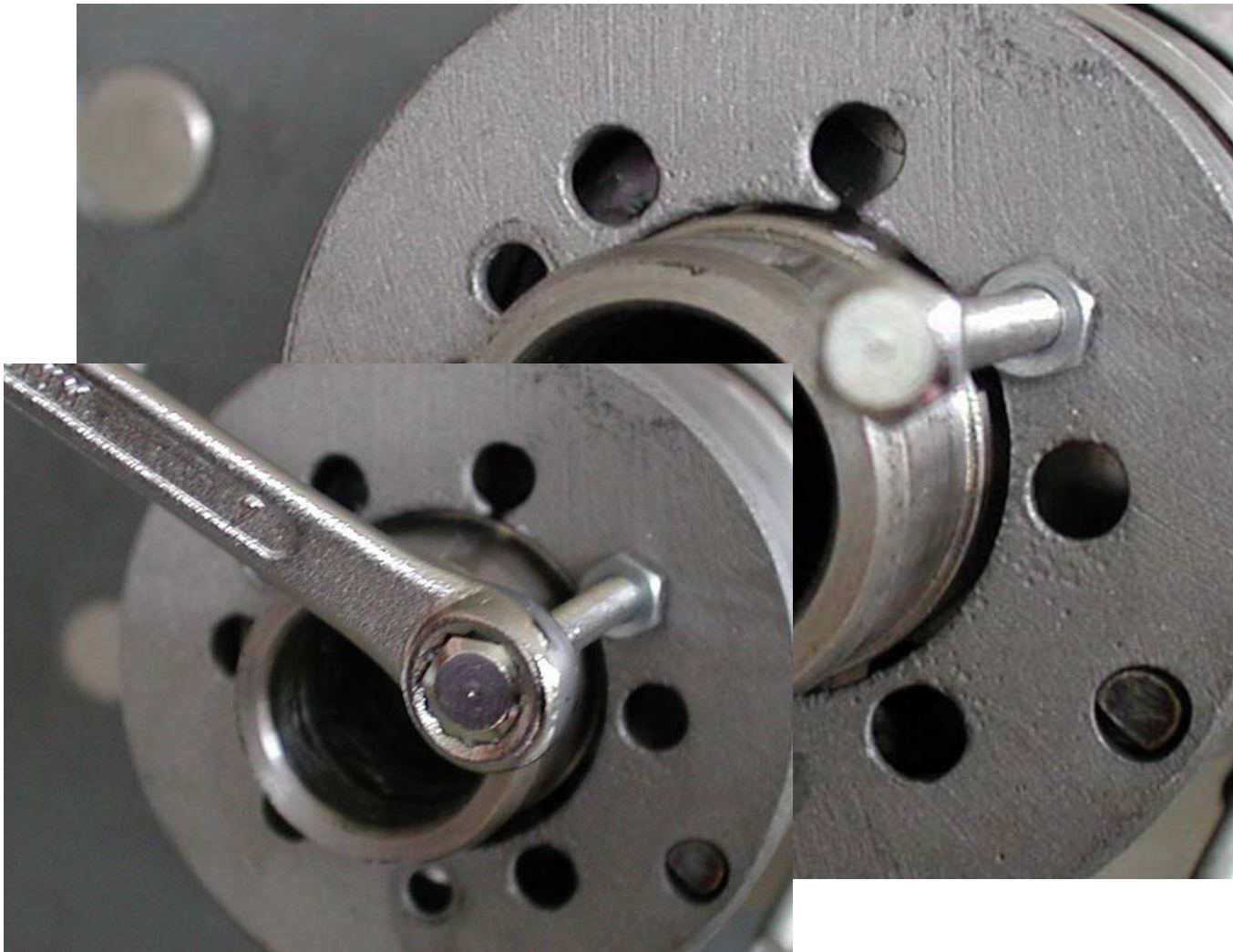
SEAL MECHANISM ASSY



..... two screws till.....



SEAL MECHANISM ASSY



..... release the
spring of seal
mechanism.



NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



Withdraw

first the

seal

mechanism

S.S. cover

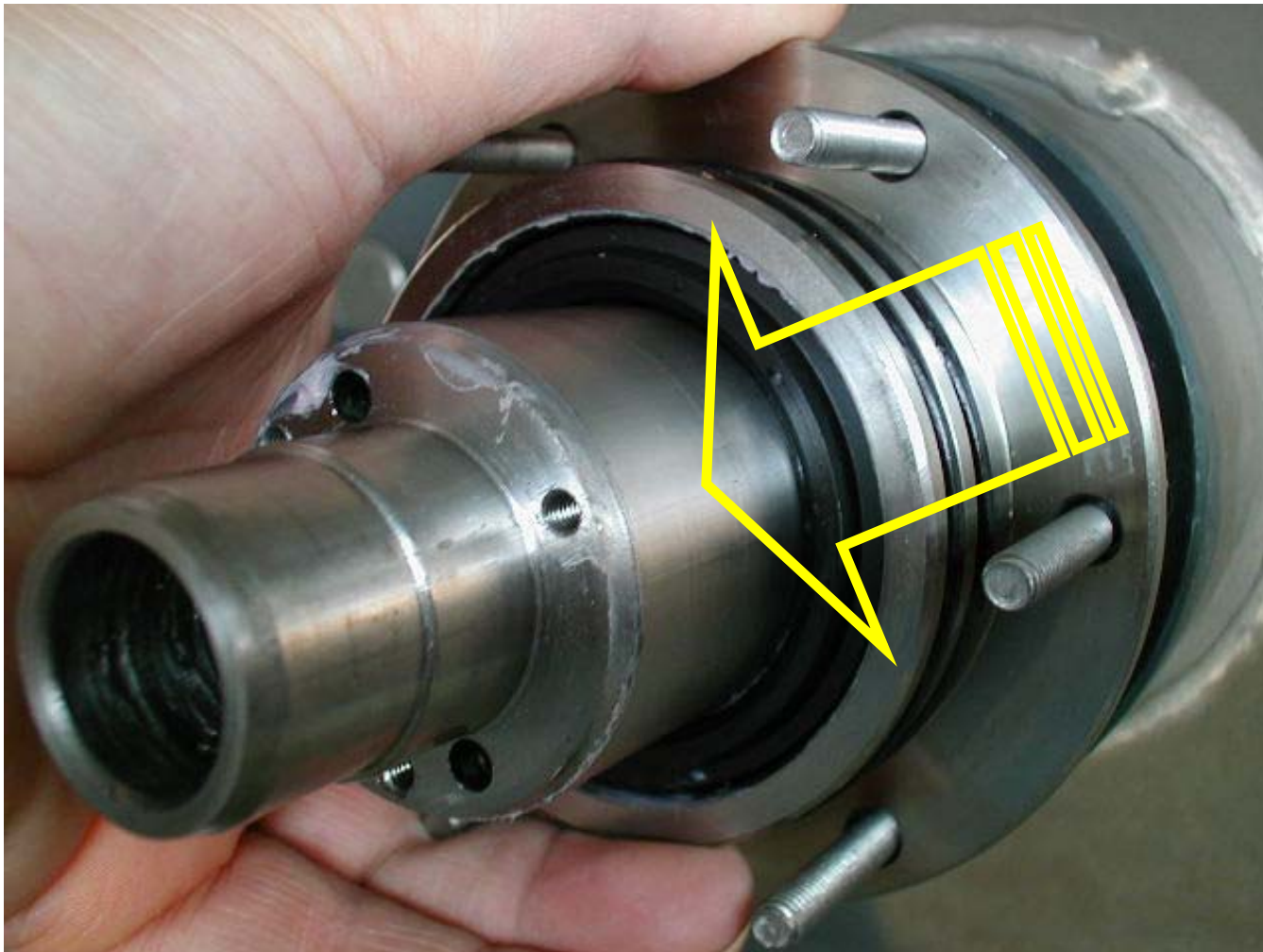
then.....

SEAL MECHANISM ASSY



.....the
entire seal
mechanism.

SEAL MECHANISM ASSY



Withdraw
entirely the
stainless steel
ring that
houses the
graphit seal
ring with....

SEAL MECHANISM ASSY



...the teflon
coated trust
washer.



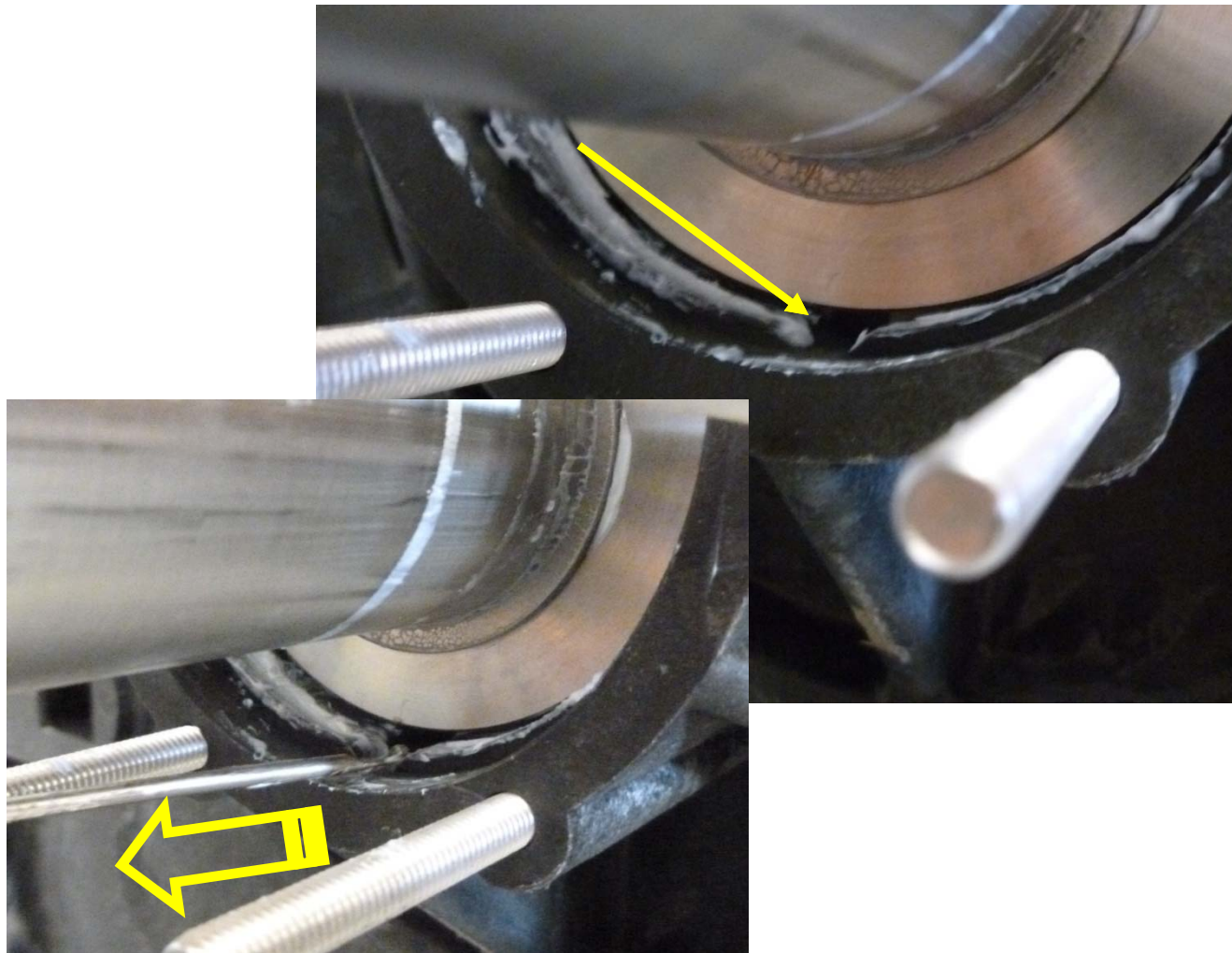
NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



With two
metal hooks of
2 mm OD (like
the ones on
the photo).....

SEAL MECHANISM ASSY

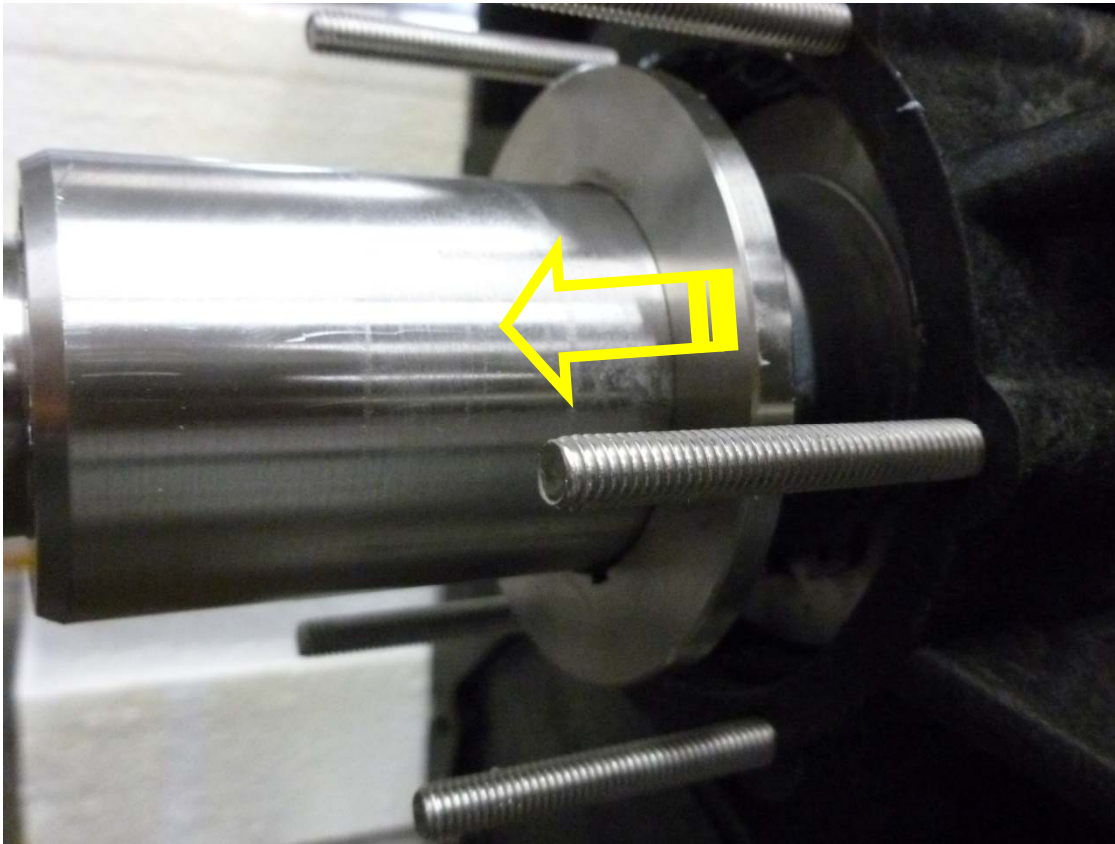


.....remove the
S.S. trust
washer by
pulling it
out.....



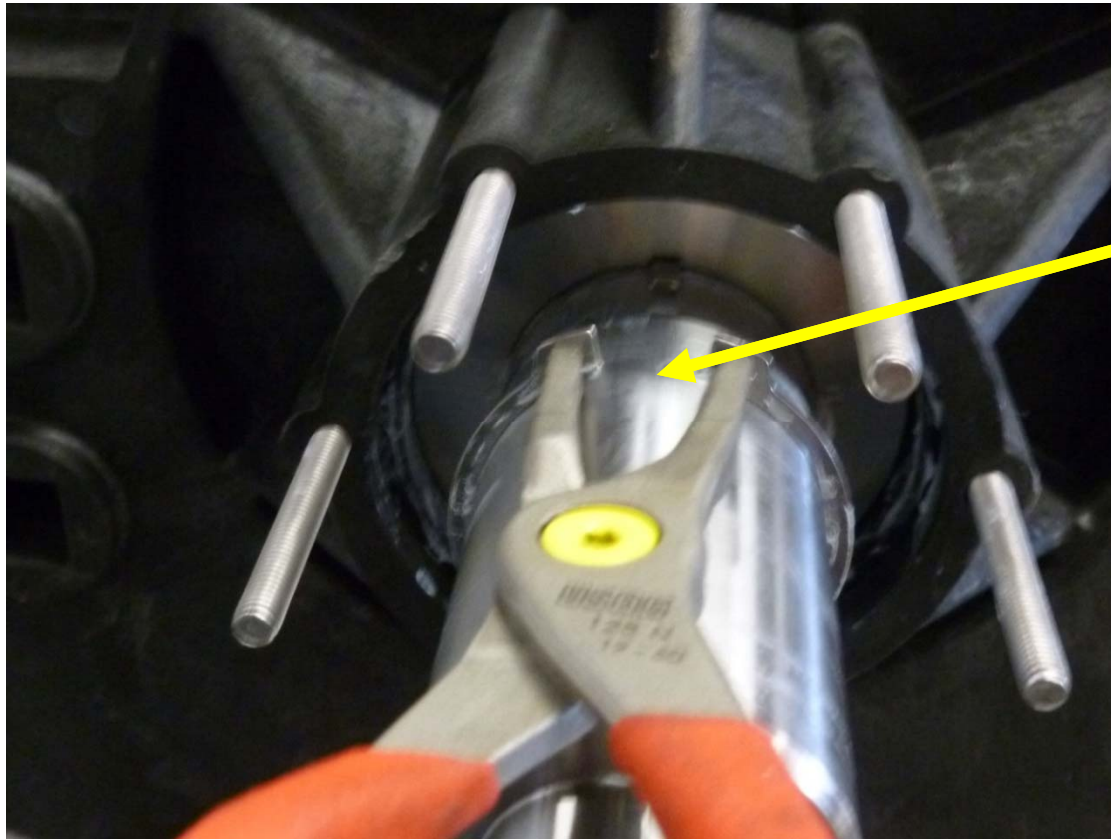
NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



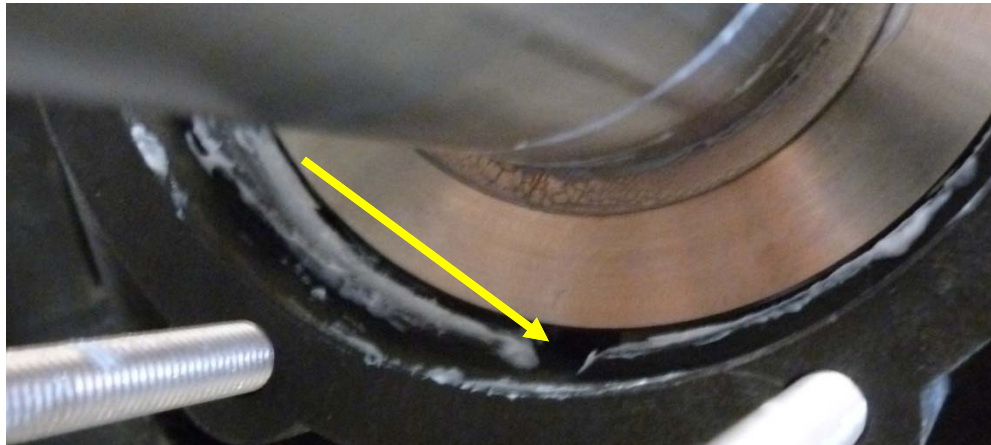
..... along the
drum shaft.

SEAL MECHANISM ASSY



Check to see that
clip ring be properly
positioned with
keyway to match the
key then remove it
the the proper tong

SEAL MECHANISM ASSY



.....using the
same metal
hooks, withdraw
the S.S. trust
washer first.....

SEAL MECHANISM ASSY



Remove the
metal key from
the evaporator
shaft



NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



.....and the
second teflon
coated trust
washer later.

SEAL MECHANISM ASSY

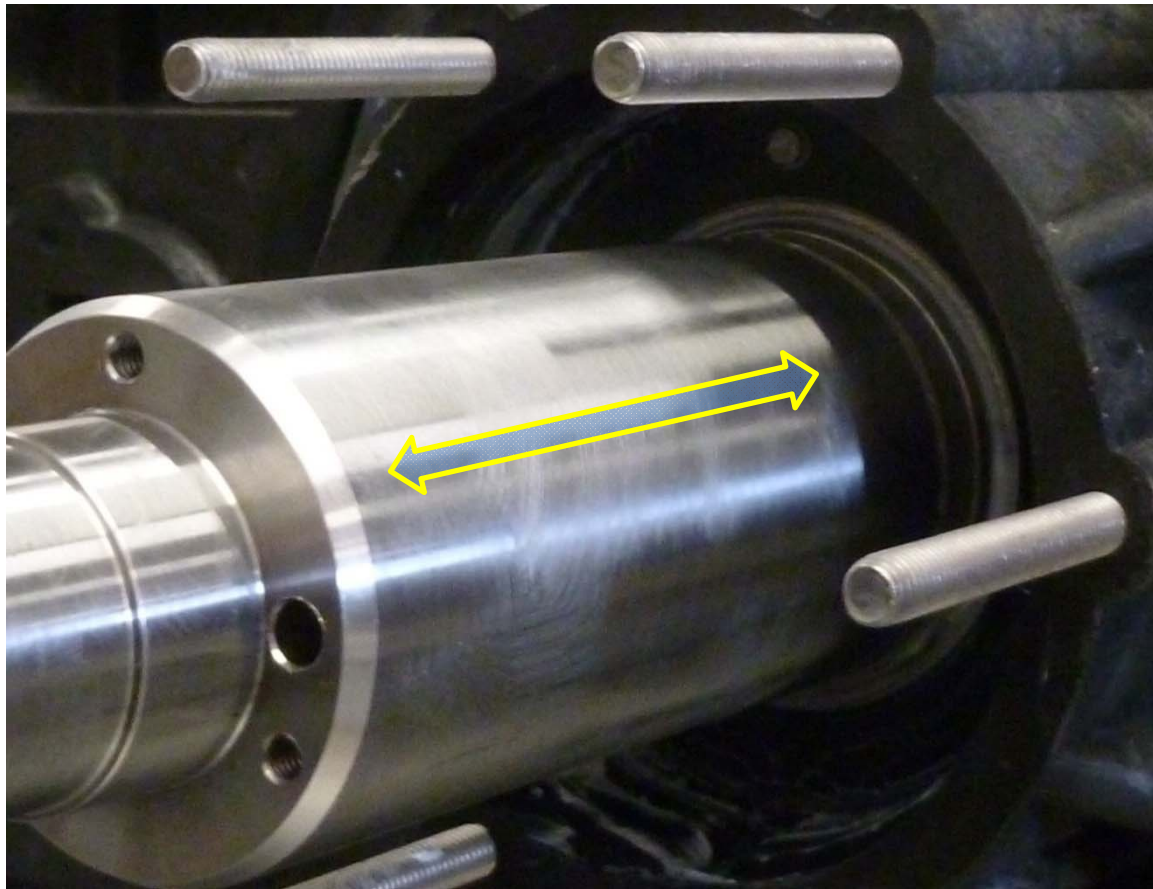


Remove the
metal pin from
the refrigerant



basin side

SEAL MECHANISM ASSY



Check for the
proper surface
conditions of
cylinder shaft
journal.



NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY

In case of scratches along the shaft, remove them before the installation of the new seal mechanism assembly, by means of a very thin sand paper to be used only in round direction.



NEW MAR SERIES COMPACT & SPLIT

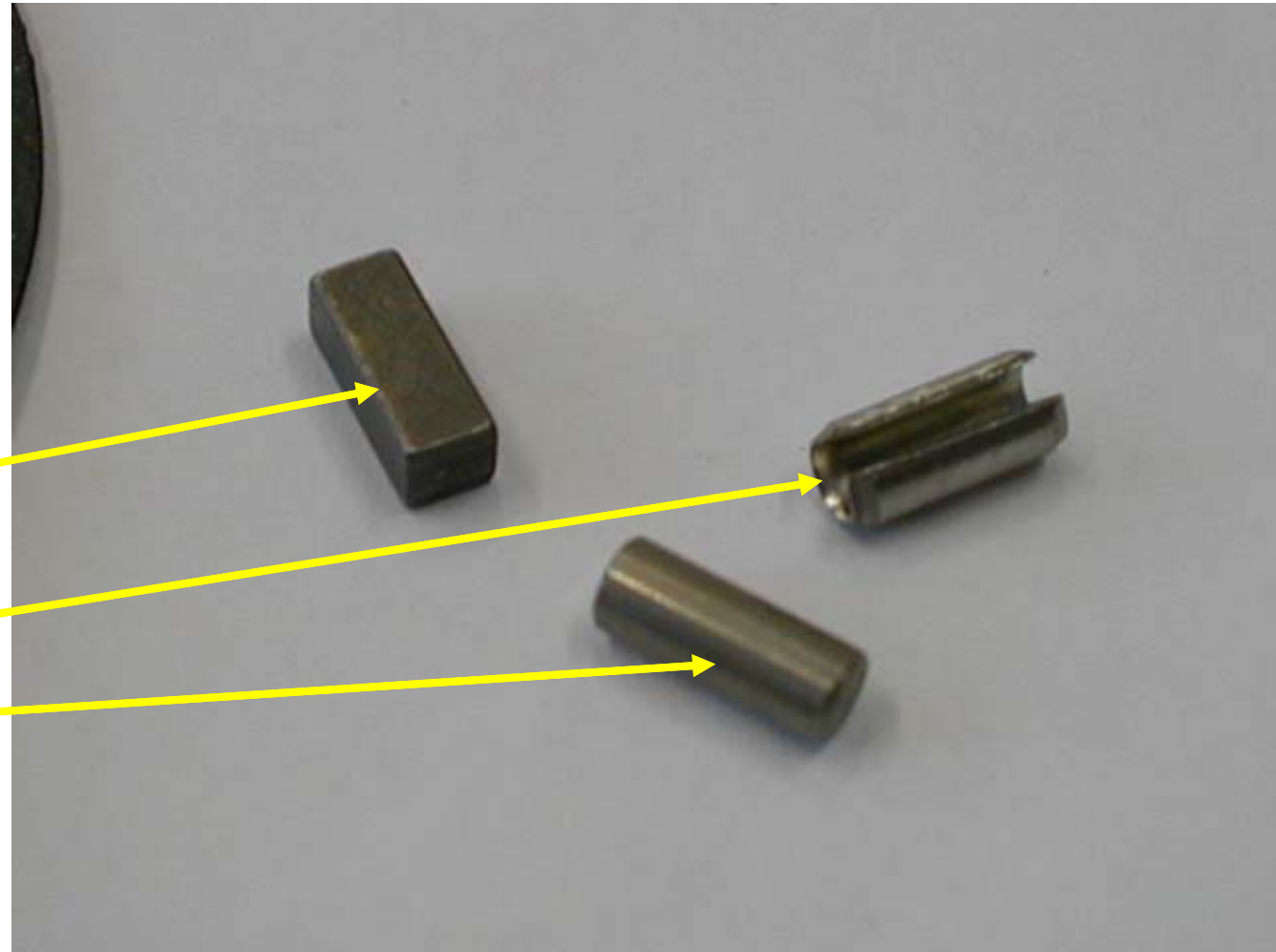
SEAL MECHANISM KIT



SEAL MECHANISM KIT

The Seal
Mechanism Kit
consists off:

- Metal Key
- Metal Spring
- Parallel Pin



SEAL MECHANISM KIT

- Two Teflon Coated Trust Washers
- 4 MA screw & nut
- Clip ring



SEAL MECHANISM KIT

- Gaskets
- O rings
- Spring gasket



SEAL MECHANISM KIT

- Graphit ring with its O ring
- S.S. ring with spring





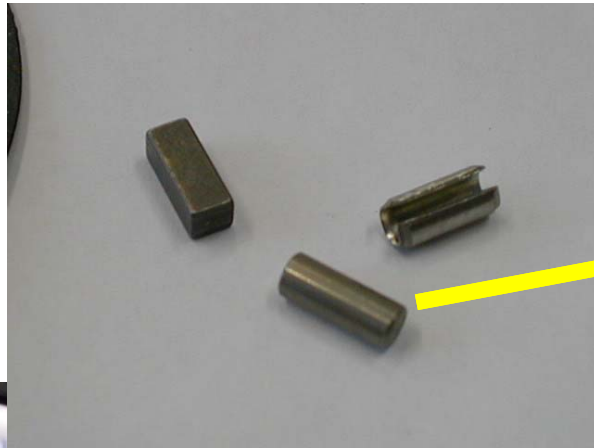
NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM KIT

- Two S.S. spacers



SEAL MECHANISM ASSY



To install the new Seal
Mechanism Kit insert
first the new metal pin
its seat on the
refrigerant basin side



NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY

Fit one of the new teflon coated trust washer inside the seal housing paying attention to have the teflon coated surface facing outside and....



SEAL MECHANISM ASSY

Install again one of the new S.S. spacer placing on the surface in contact with the teflon coated trust washer a small quantity of lubricant.

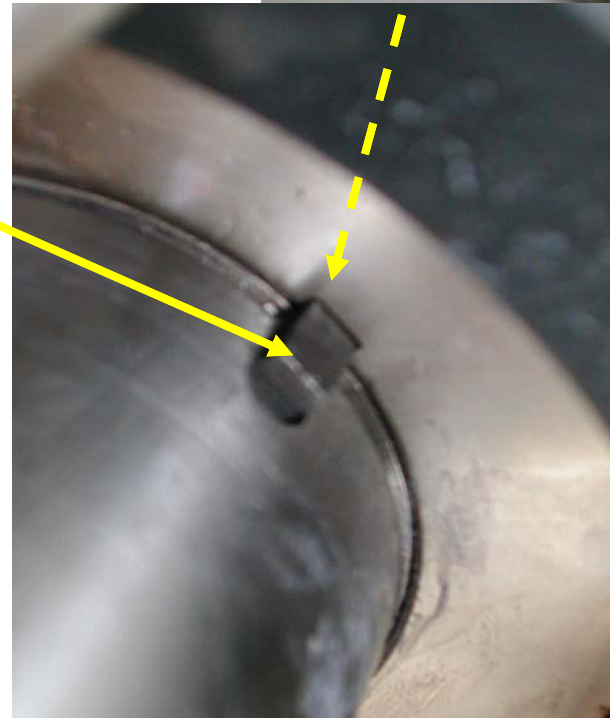




NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY

Install the new metal key on
the evaporator shaft seat





NEW MAR SERIES COMPACT & SPLIT

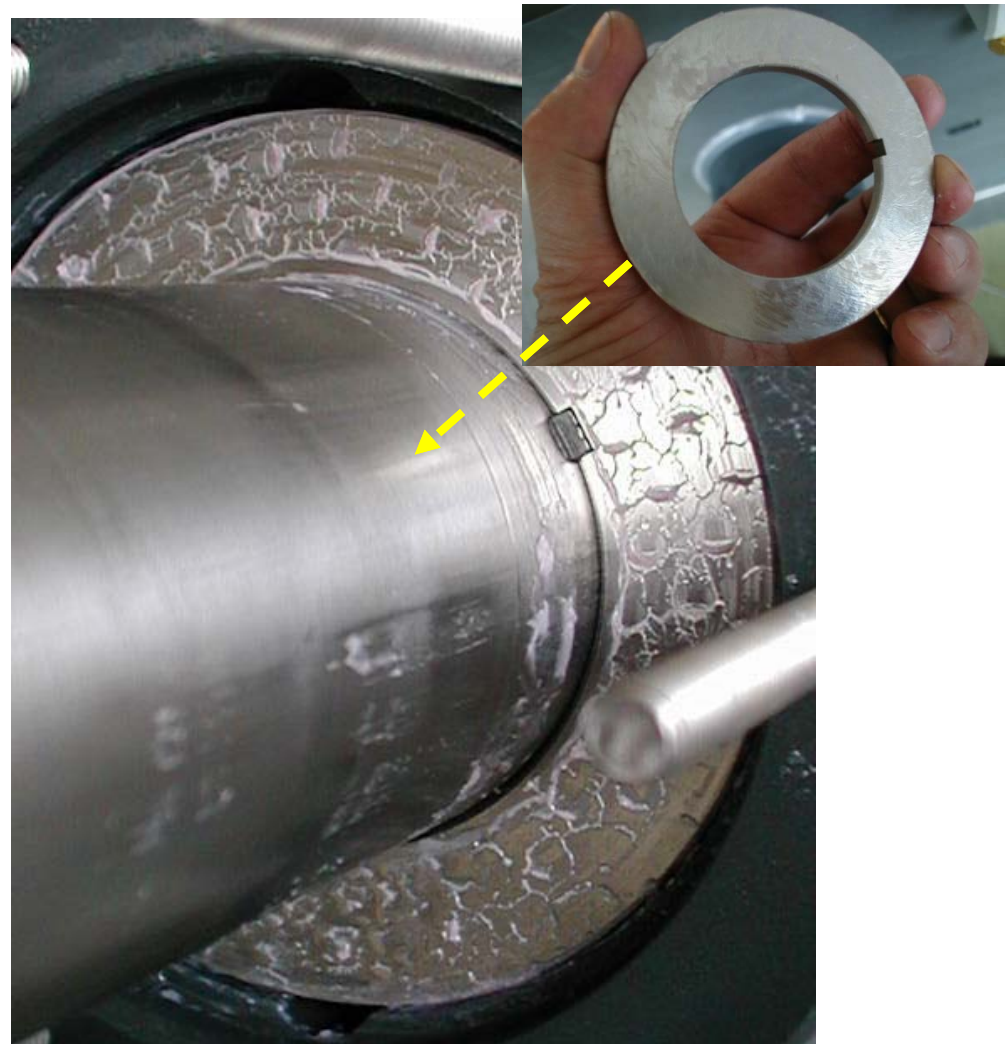
SEAL MECHANISM ASSY

.....install the new Clip Ring
into its groove on the drum
shaft paying attention that it
is properly seated inside.



SEAL MECHANISM ASSY

Install again the S.S. spacer
covering the outside surface
with a small quantity of
lubricant (molicote).



SEAL MECHANISM ASSY

With molicote
grease, lubricate
the O ring of the
Graphit Ring
then.....

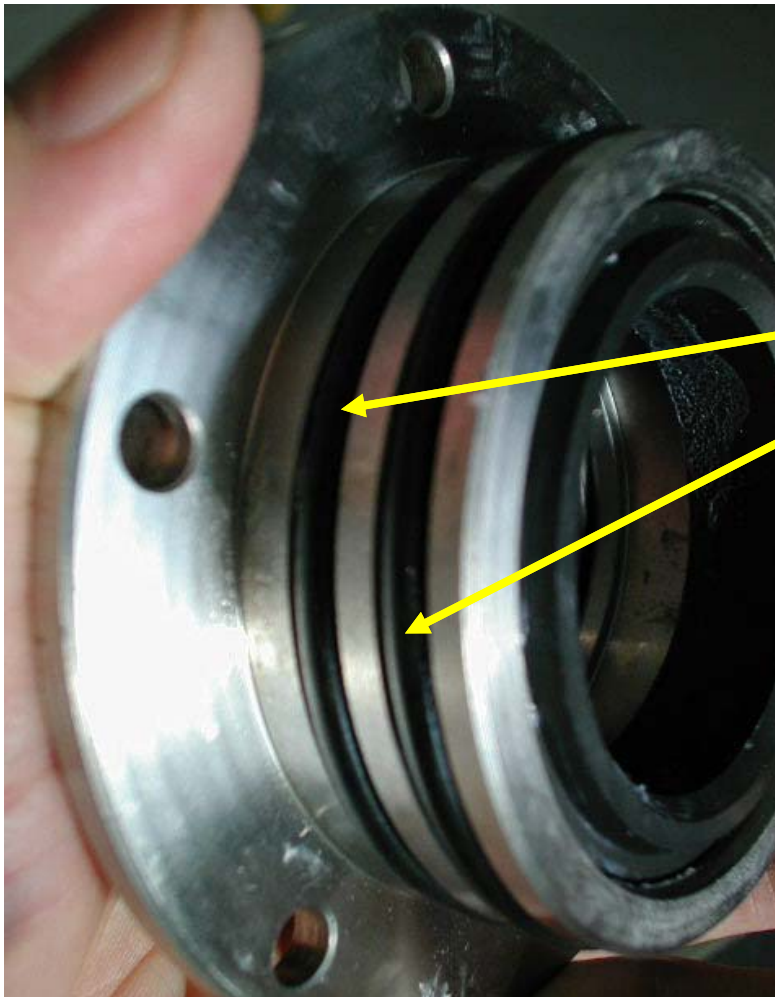


SEAL MECHANISM ASSY

..... insert it into
the S.S. housing
ring.

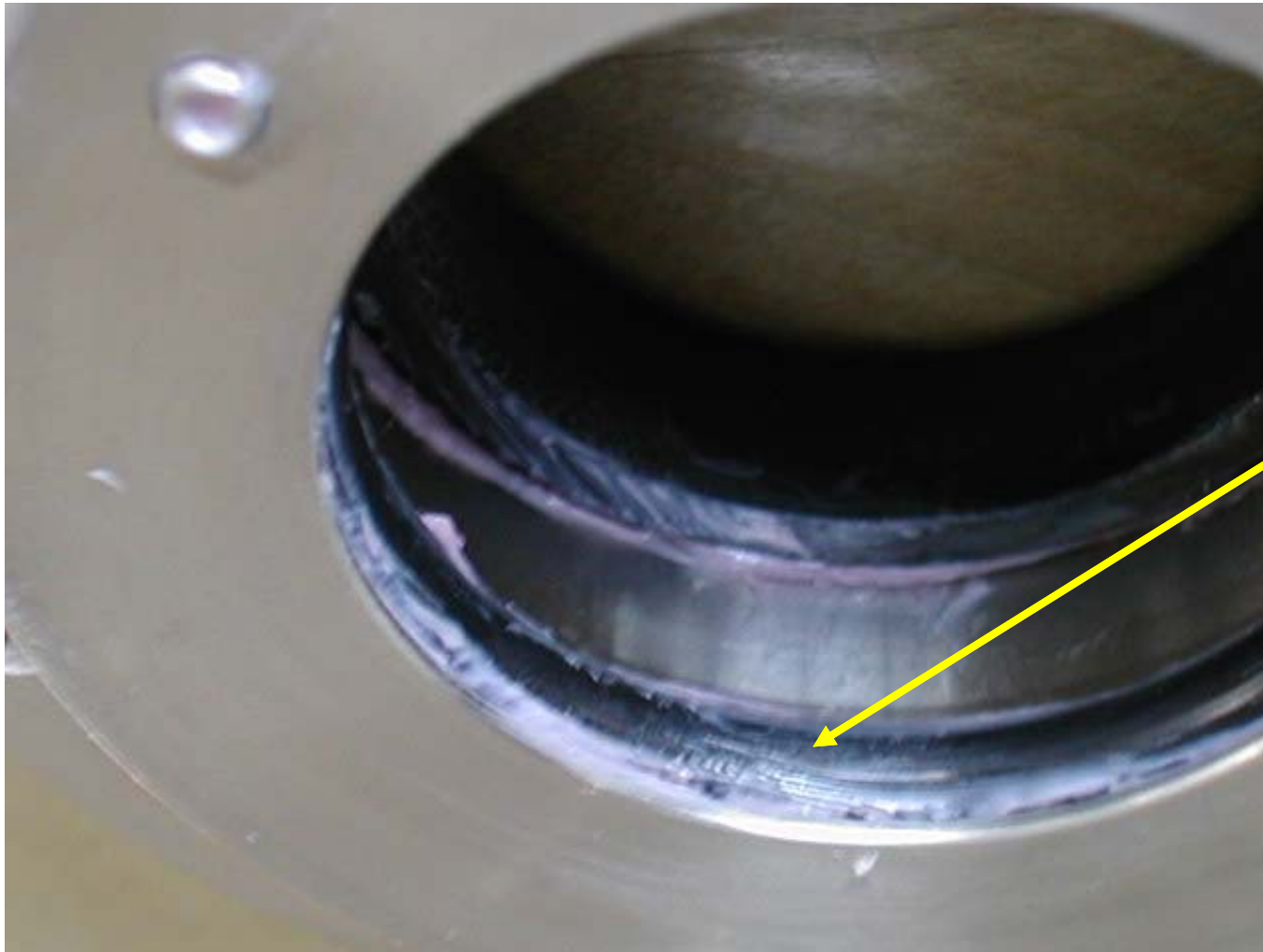


SEAL MECHANISM ASSY



Replace the two
O-rings of the
stainless steel
ring housing the
graphitic ring.

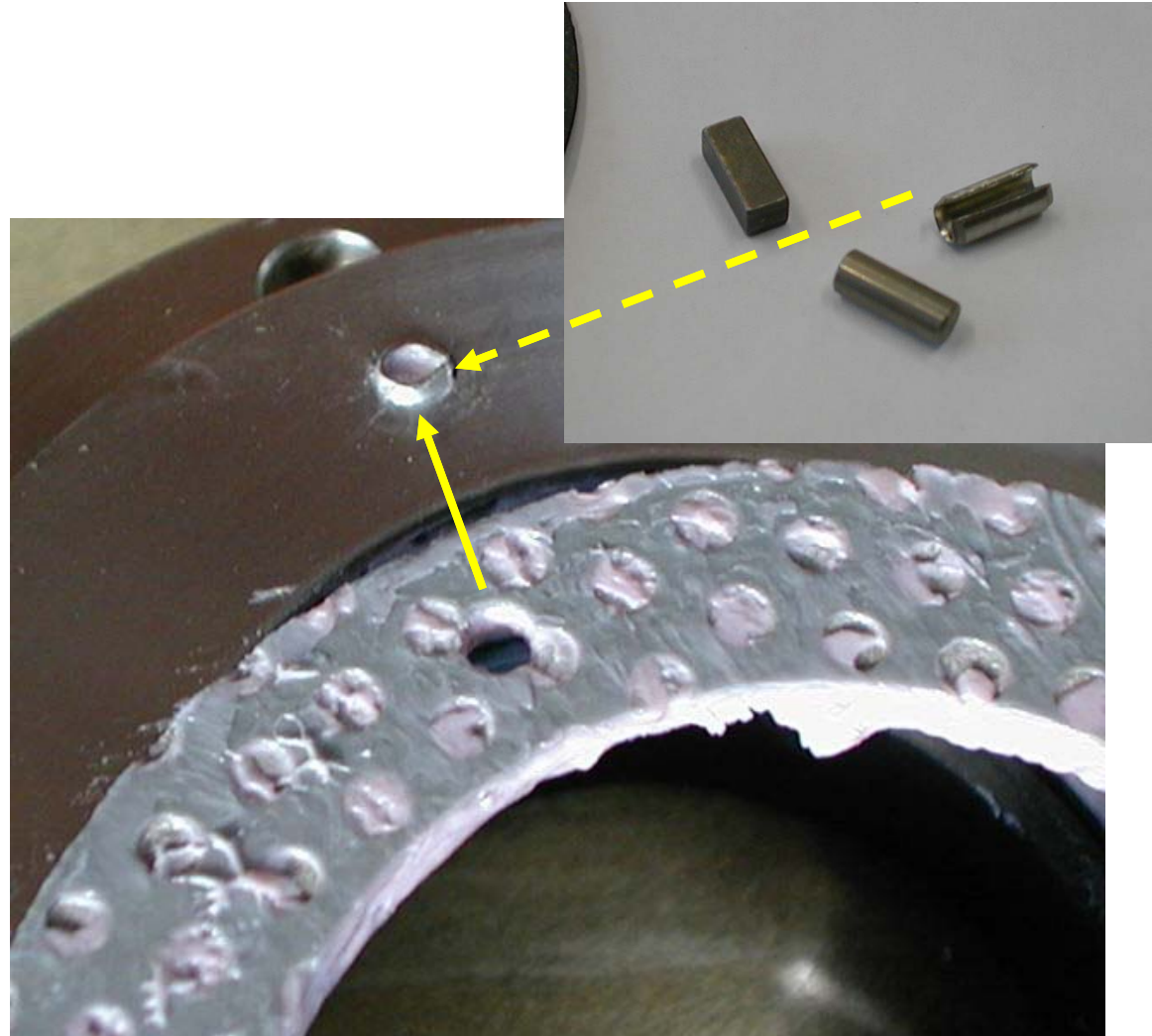
SEAL MECHANISM ASSY



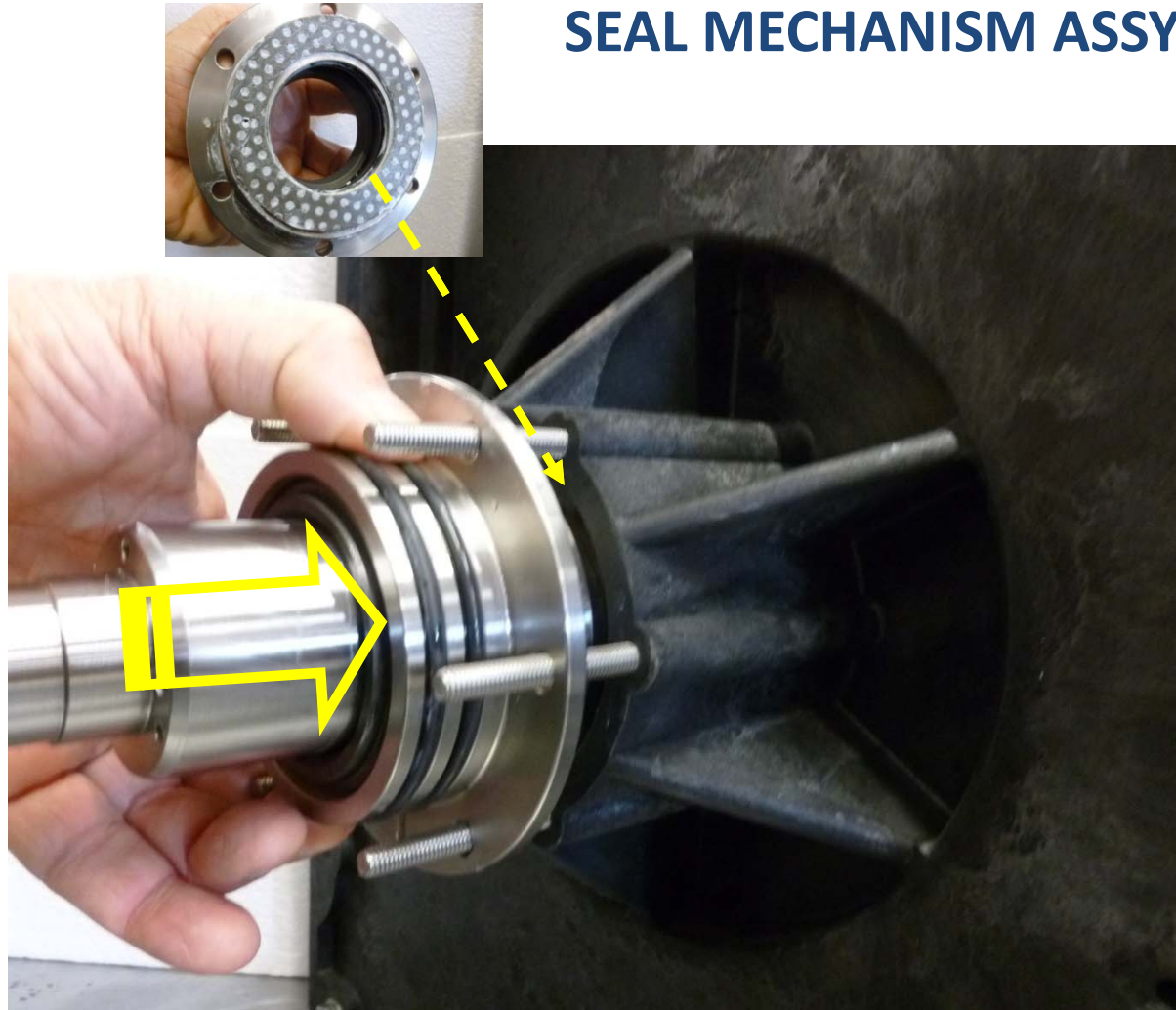
Replace
the O-ring
on
retainer

SEAL MECHANISM ASSY

On the back side of the Graphit Ring Housing, install the new Teflon Coated Trust Washer with the teflon surface facing the outside paying attention to match the hole with the spring pin.



SEAL MECHANISM ASSY



Re-install the
S.S. housing on
the refrigerant
basin side



NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



Lubricate
the O ring
inner
surface of
seal
mechanism
with
refrigerant
oil.

SEAL MECHANISM ASSY



Re-install the S.S.
seal with ring
mechanism on
the evaporator
shaft



NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



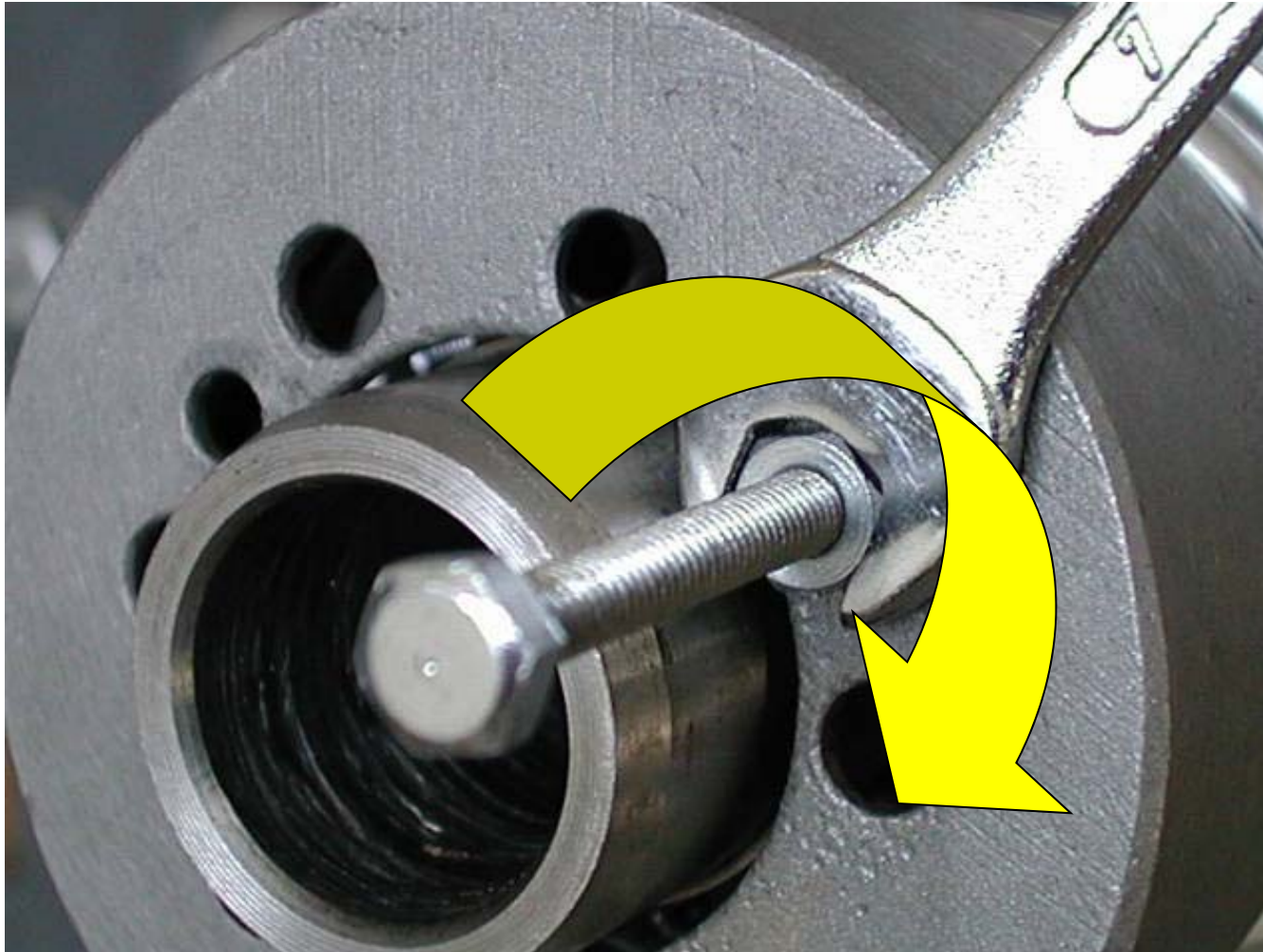
...and its cover

SEAL MECHANISM ASSY



Fit the screw
of 4 MA with
its nut in one
of the three
threaded
holes
then.....

SEAL MECHANISM ASSY



..... screw

down the nut

in order to

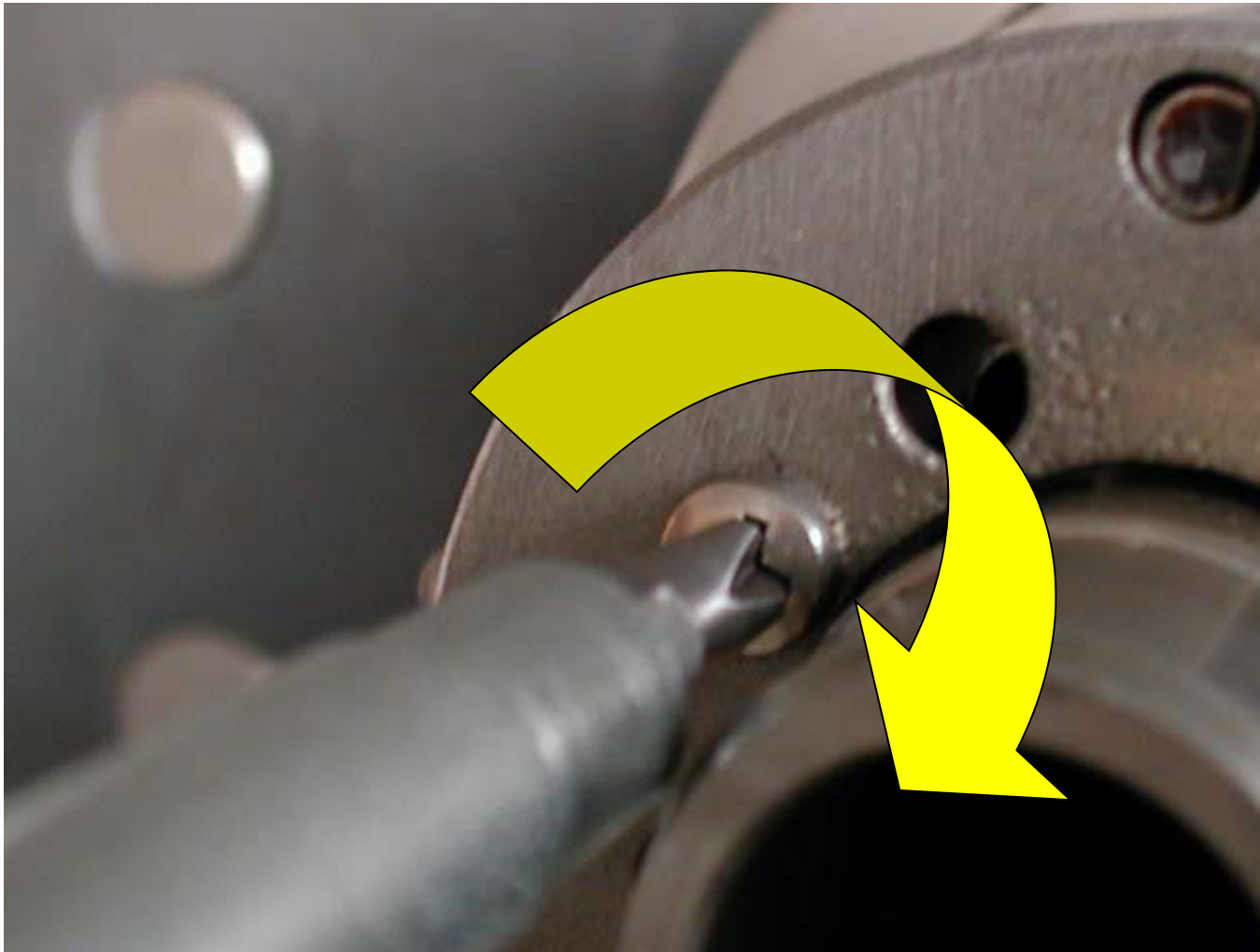
press the

spring.



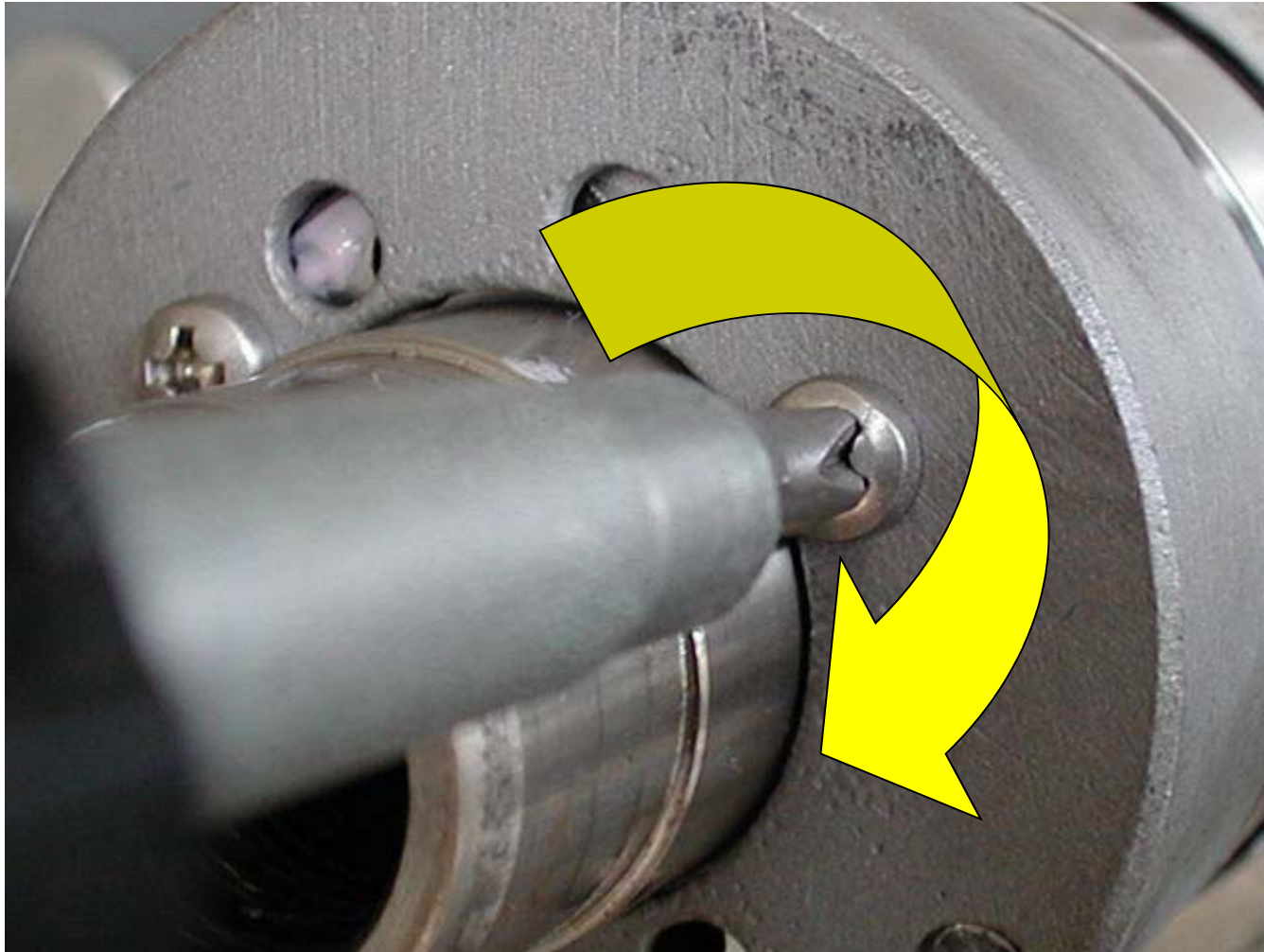
NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



Finally lock the
ring by the
standard
shorter screws
then.....

SEAL MECHANISM ASSY



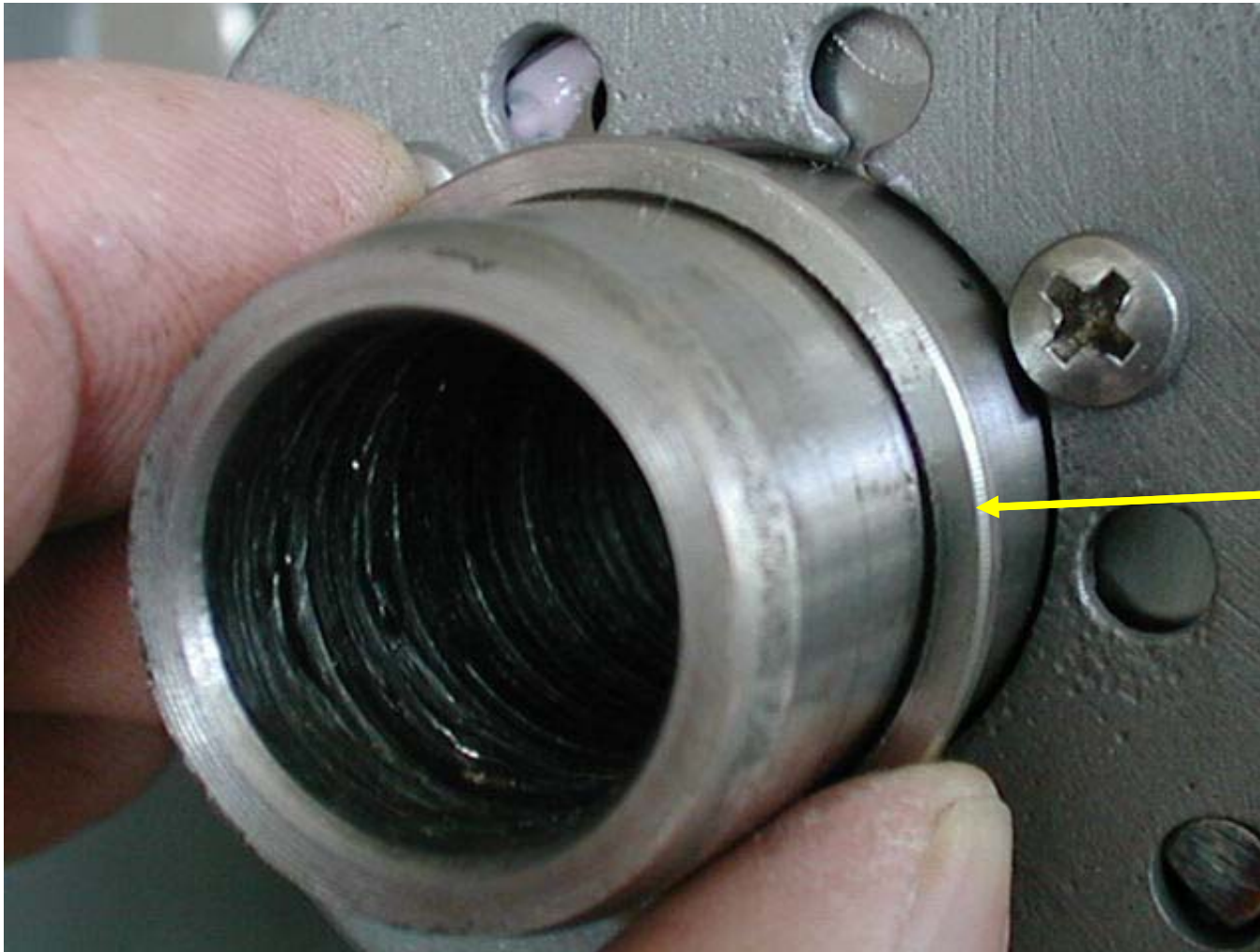
.....replace the
long screw
with the
standard one
and tight it.

SEAL MECHANISM ASSY



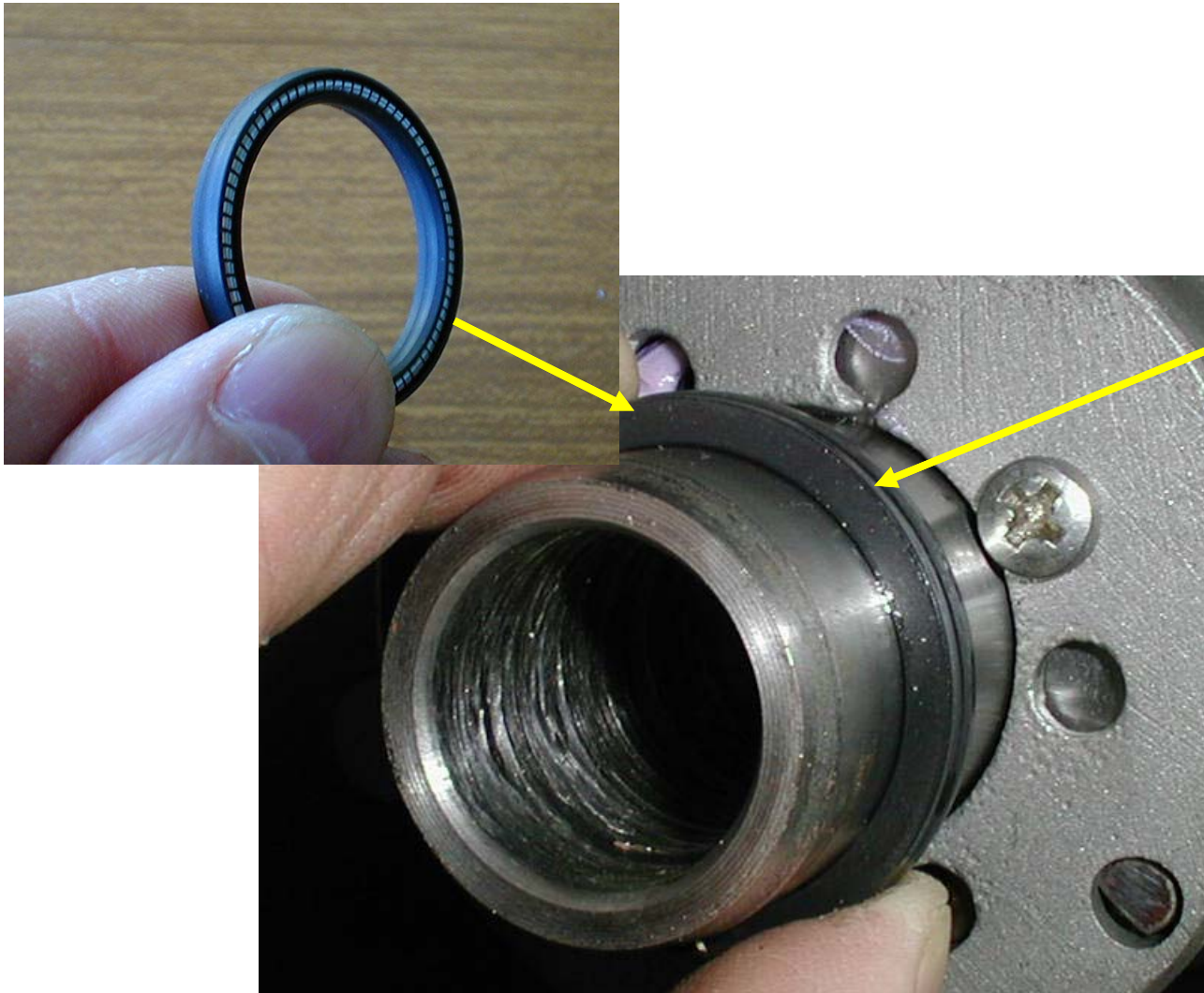
Fit on the drum
shaft journal the
remaining portion
of seal
mechanism
**(stainless steel
seal ring with
spring)**, then the
space ring

SEAL MECHANISM ASSY



Fit on the
shaft end the
S.S. ring
first....

SEAL MECHANISM ASSY



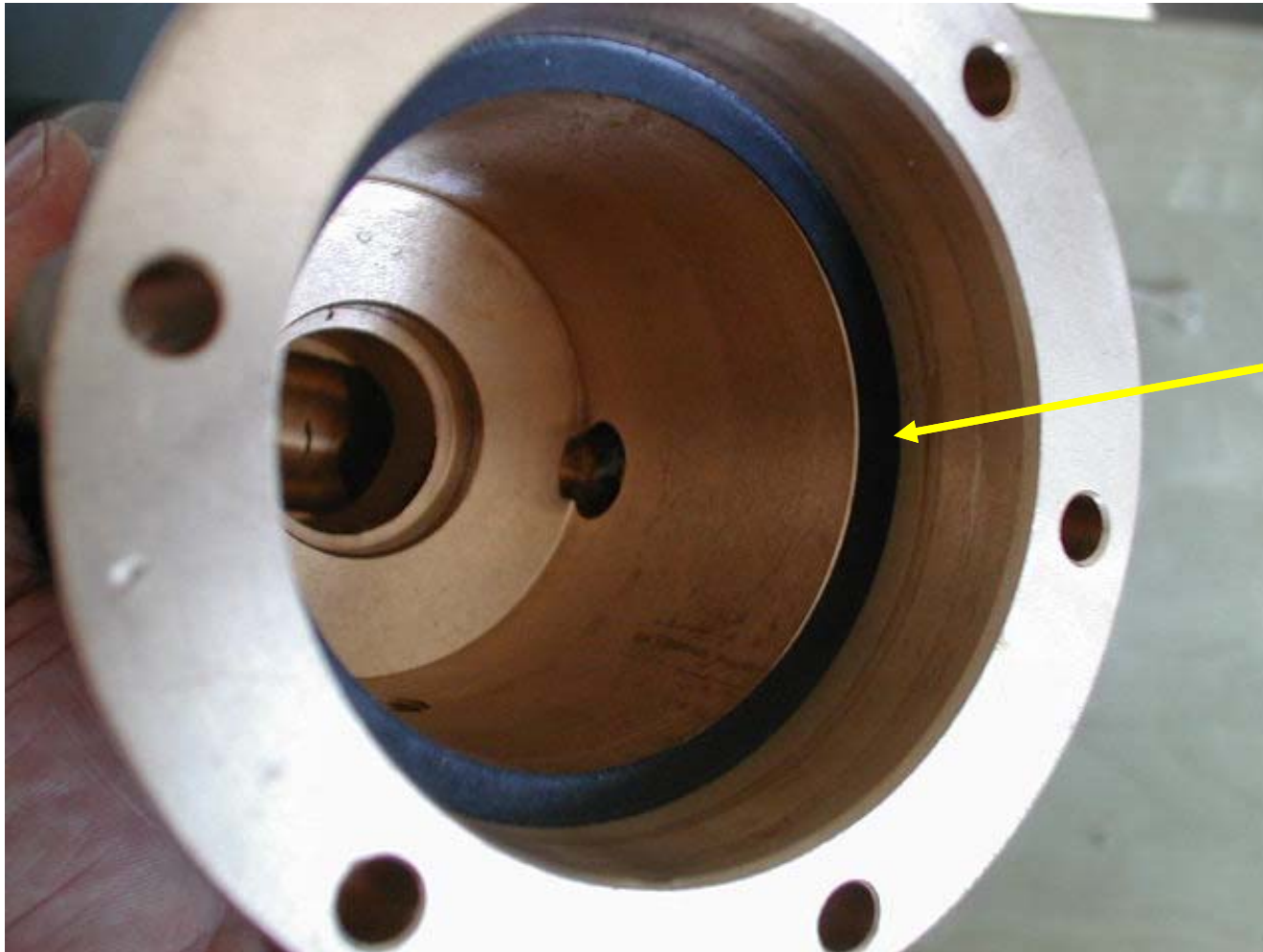
.....then the
spring ring
with the
inside spring
facing the
S.S. ring.

SEAL MECHANISM ASSY



Carefully clean
the inner
surface of
refrigerant
manifold and
lubricate with
refrigerant oil...

SEAL MECHANISM ASSY

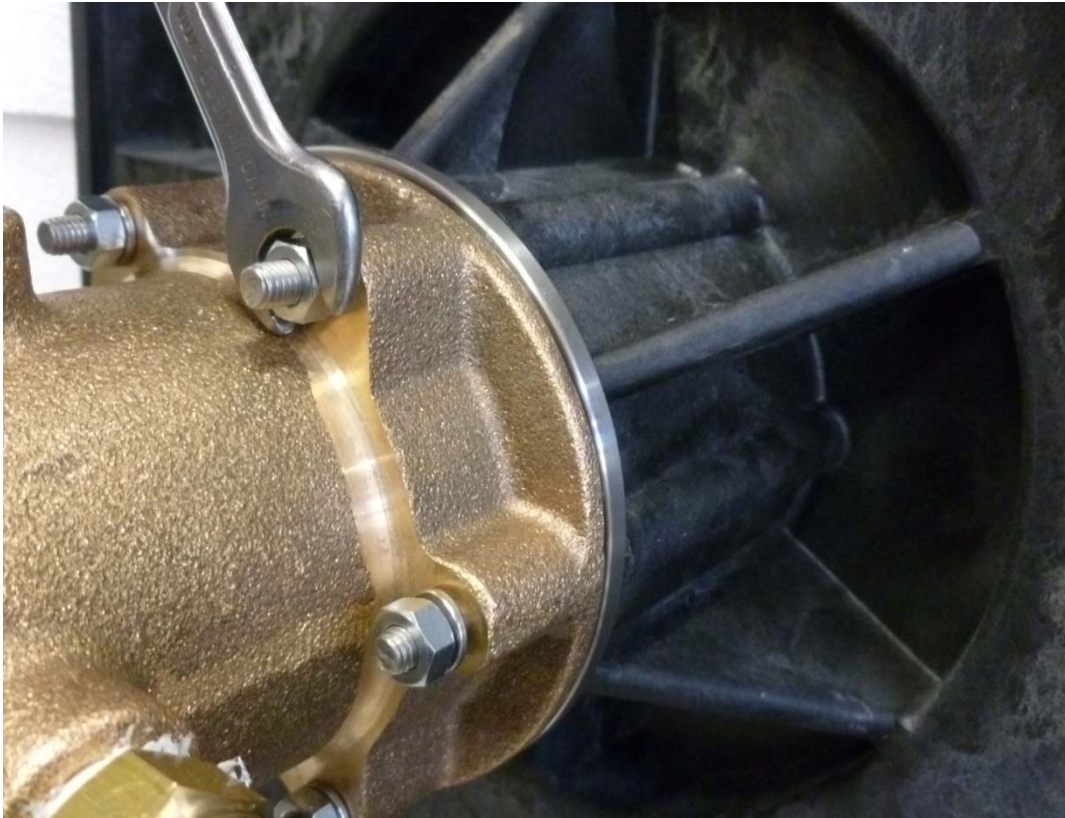


.....install the
flat gasket
around the
manifold
seat.



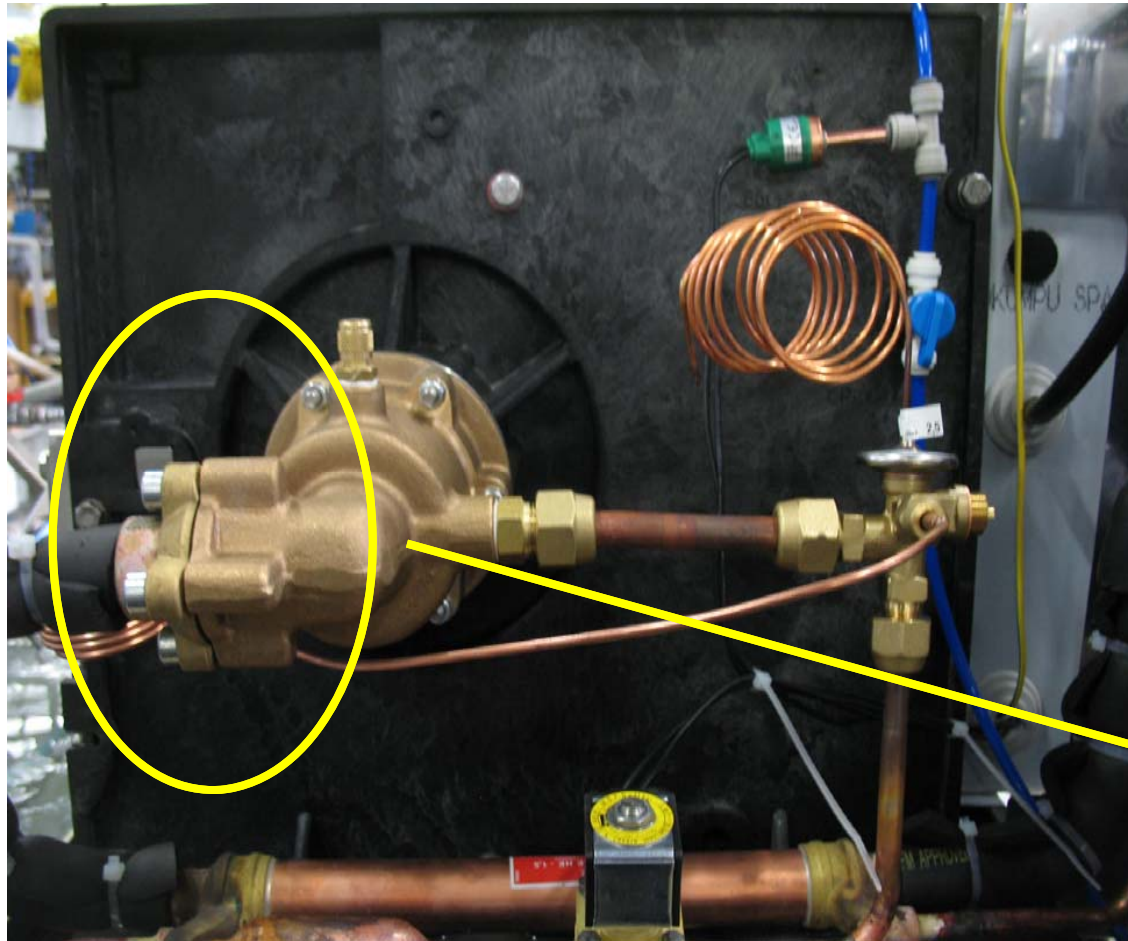
NEW MAR SERIES COMPACT & SPLIT

SEAL MECHANISM ASSY



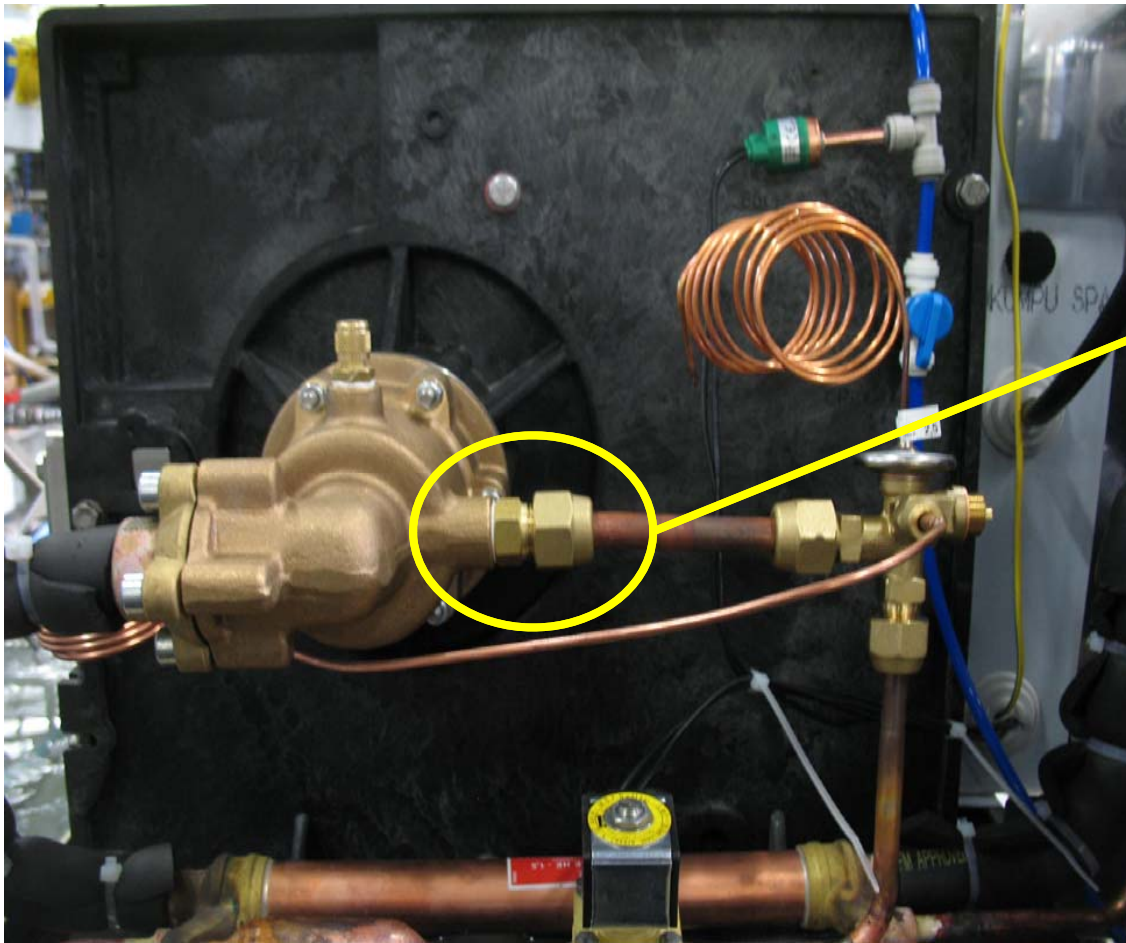
Reinstall carefully
the refrigerant
manifold on the
drum shaft then tight
nuts with their
lockwasher

SEAL MECHANISM ASSY



Connect the outlet refrigerant line to the corresponding port of the manifold and tight it with the four allen screw.

SEAL MECHANISM ASSY



Connect the
refrigerant inlet
line on its manifold
fitting and tight the
flared nut.

Scotsman[®]
Ice Systems

END