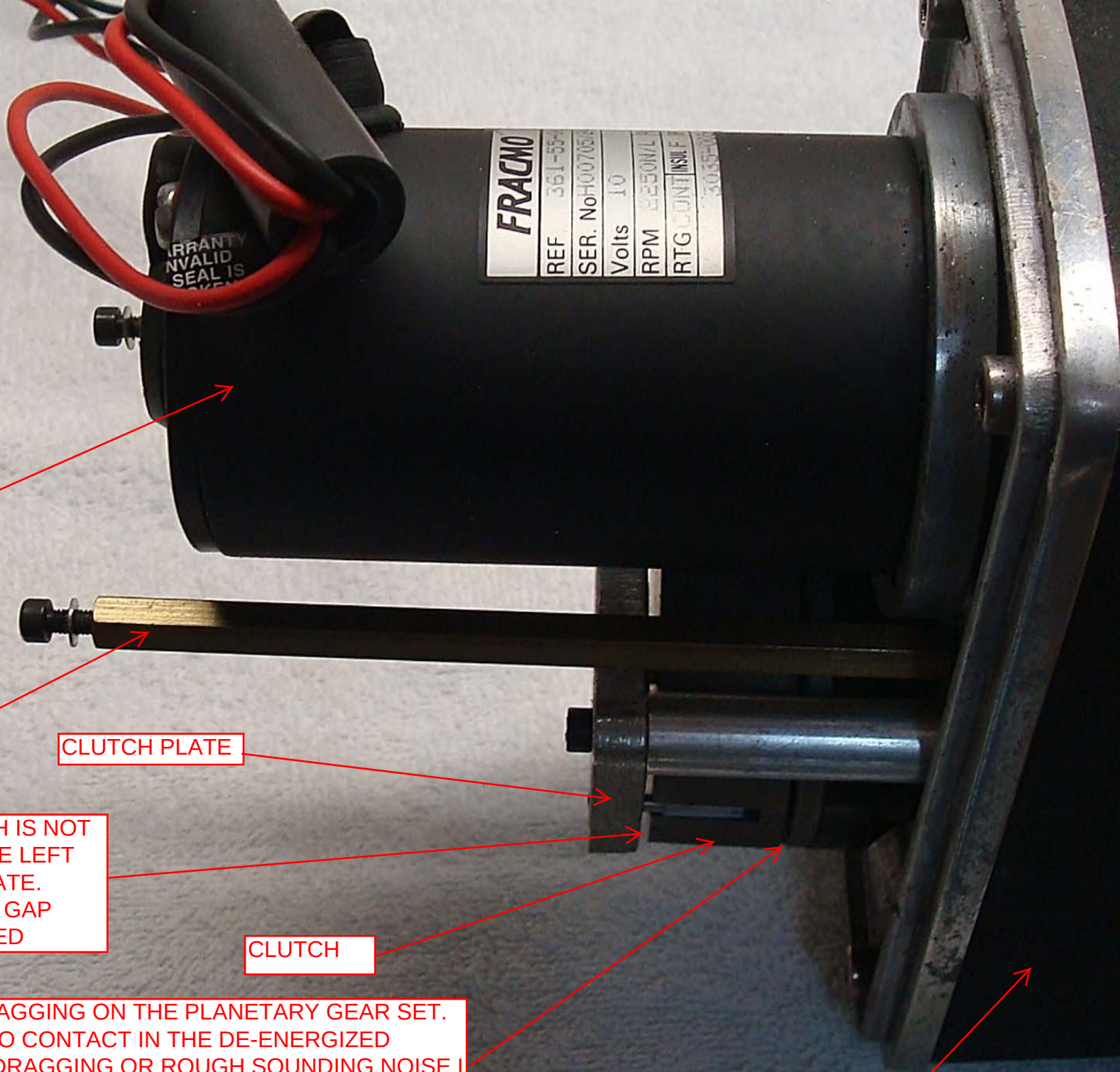




DRIVE MOTOR

STAND-OFFS

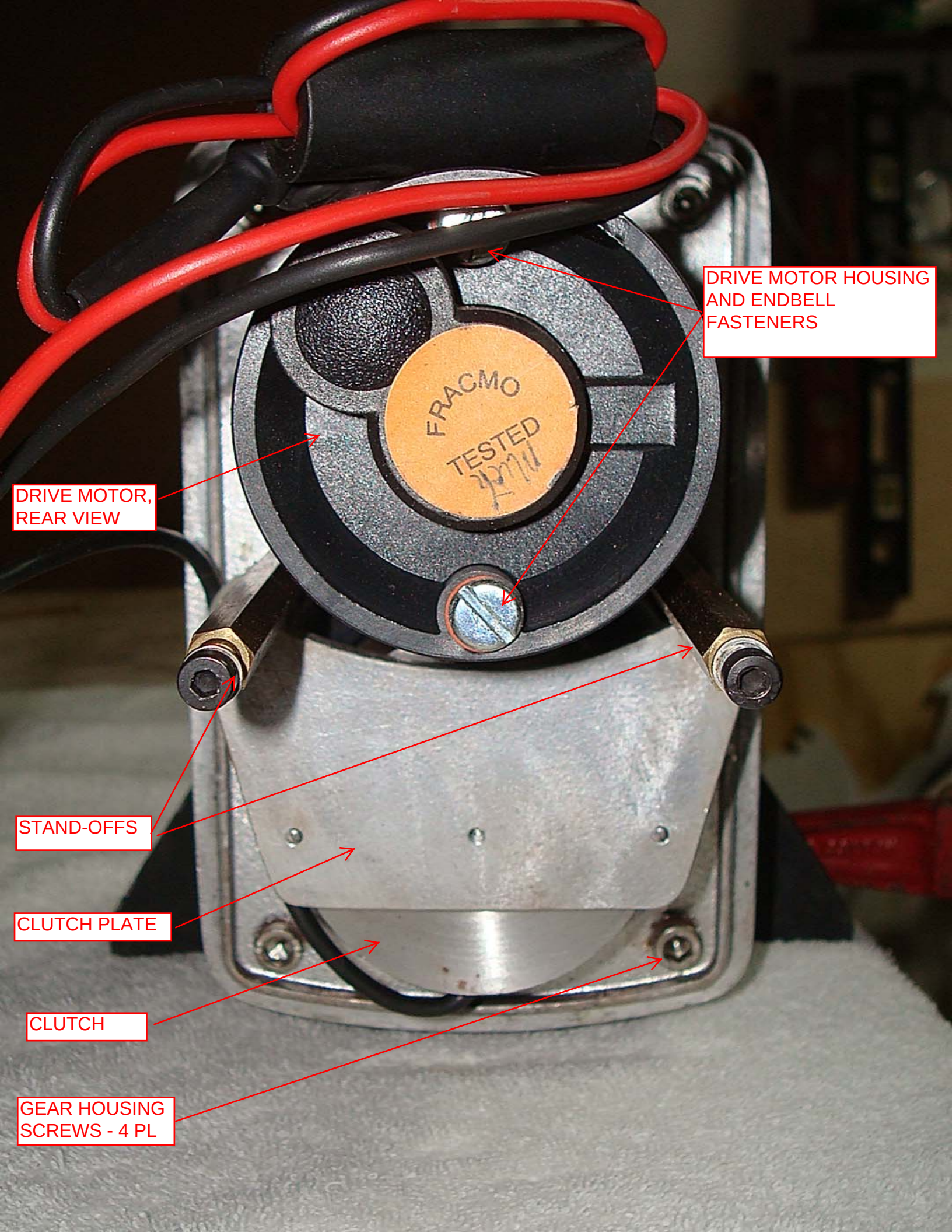
CLUTCH PLATE

NOTICE THAT THE CLUTCH IS NOT FULLY RETRACTED TO THE LEFT AGAINST THE CLUTCH PLATE. THERE SHOULD NOT BE A GAP HERE WHEN DE-ENERGIZED

CLUTCH

NOTE, CLUTCH IS DRAGGING ON THE PLANETARY GEAR SET. THERE SHOULD BE NO CONTACT IN THE DE-ENERGIZED STATE. THIS IS THE DRAGGING OR ROUGH SOUNDING NOISE I HEARD WHEN I INITIALLY ROTATED THE OUTPUT SHAFT THINKING IT WAS WORN OR DAMAGED BRUSHES.

GEAR HOUSING COVER



DRIVE MOTOR HOUSING
AND ENDBELL
FASTENERS

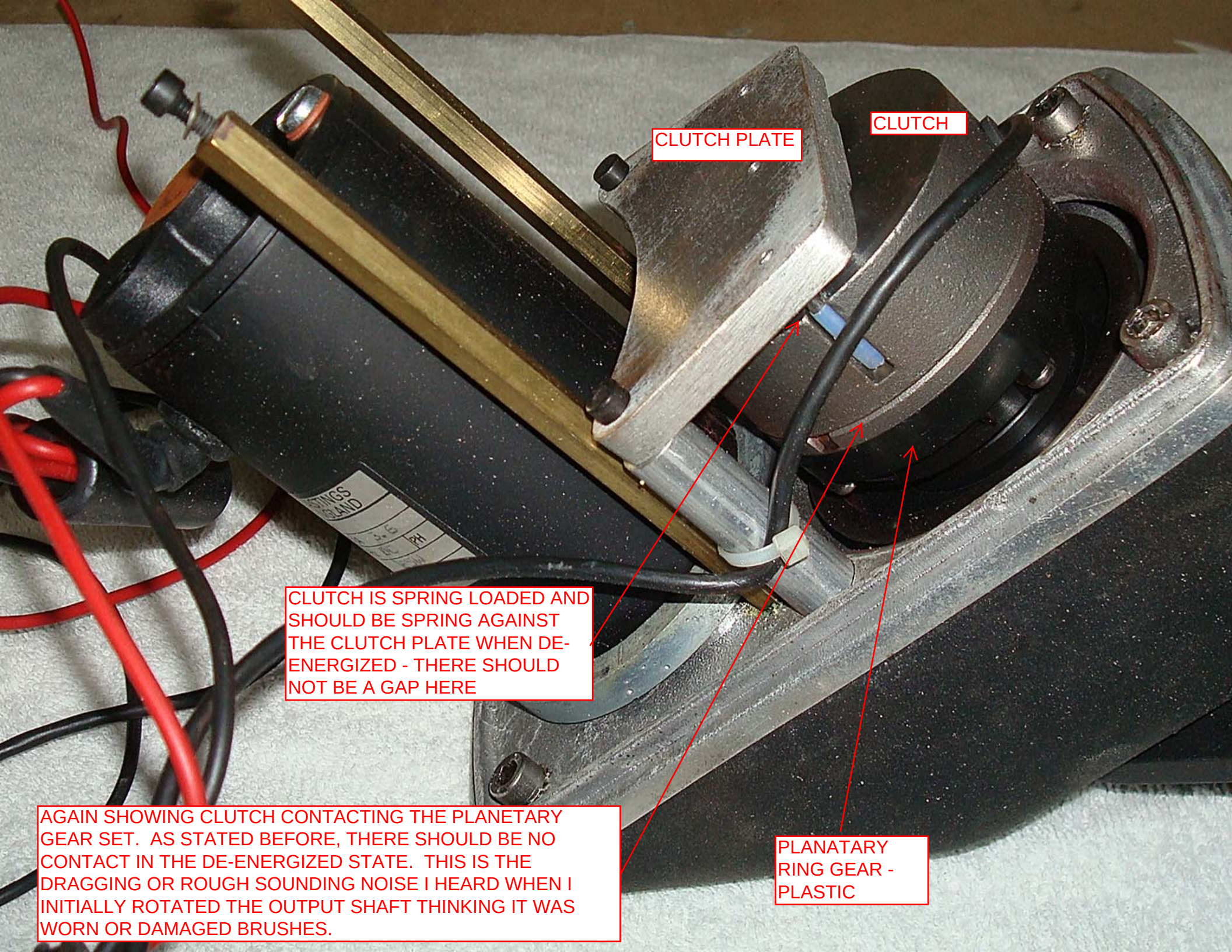
DRIVE MOTOR,
REAR VIEW

STAND-OFFS

CLUTCH PLATE

CLUTCH

GEAR HOUSING
SCREWS - 4 PL



CLUTCH PLATE

CLUTCH

CLUTCH IS SPRING LOADED AND SHOULD BE SPRING AGAINST THE CLUTCH PLATE WHEN DE-ENERGIZED - THERE SHOULD NOT BE A GAP HERE

AGAIN SHOWING CLUTCH CONTACTING THE PLANETARY GEAR SET. AS STATED BEFORE, THERE SHOULD BE NO CONTACT IN THE DE-ENERGIZED STATE. THIS IS THE DRAGGING OR ROUGH SOUNDING NOISE I HEARD WHEN I INITIALLY ROTATED THE OUTPUT SHAFT THINKING IT WAS WORN OR DAMAGED BRUSHES.

PLANATARY
RING GEAR -
PLASTIC

DRIVE MOTOR
NAMEPLATE

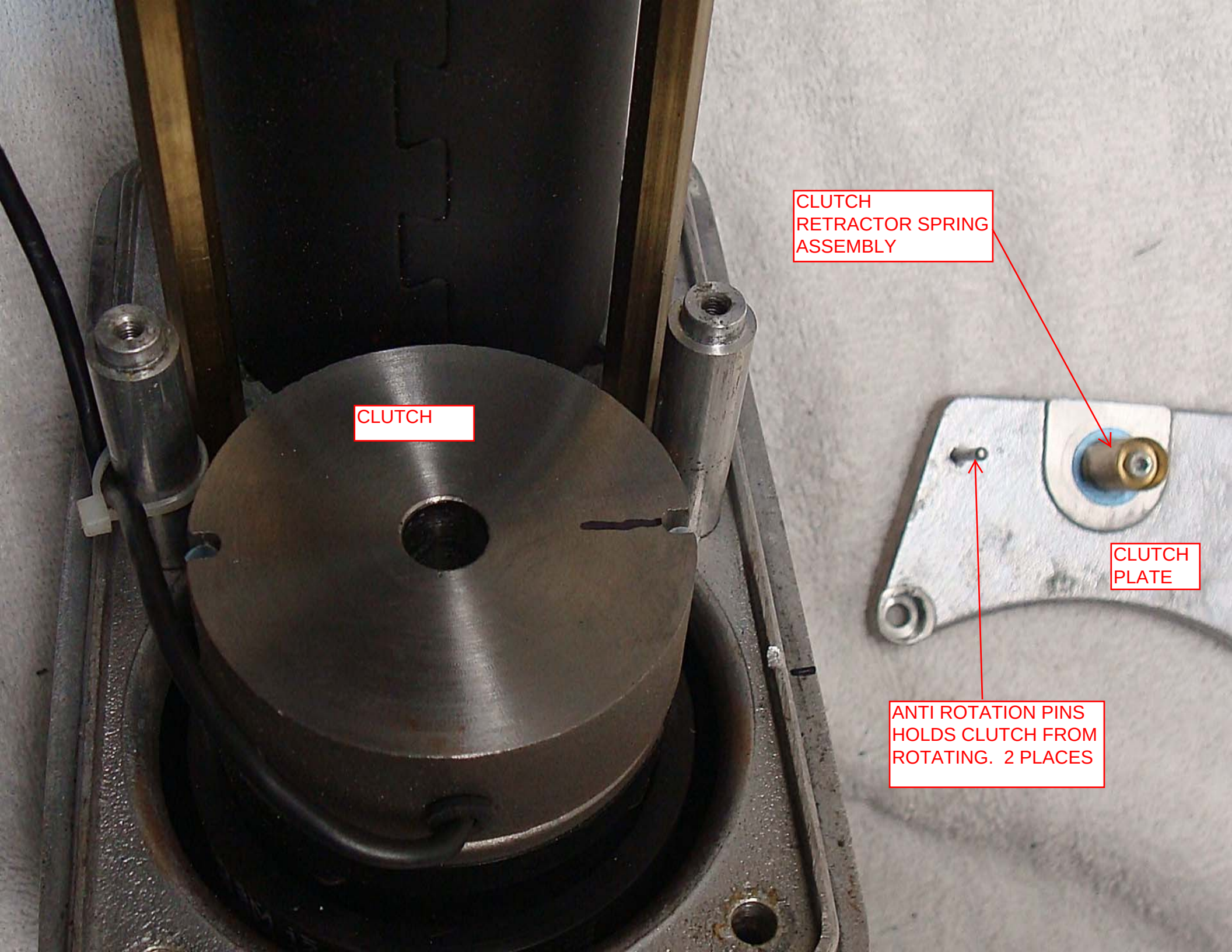
FRACMO		HASTINGS ENGLAND	
REF	361-115-001B		
SER. No	H00705/2415	A	3.6
Volts	10	Hz	DC PH
RPM	2250N/L	O/p	25W
RTG CONT	INSUL	IP	DATE AK
3055-001B			

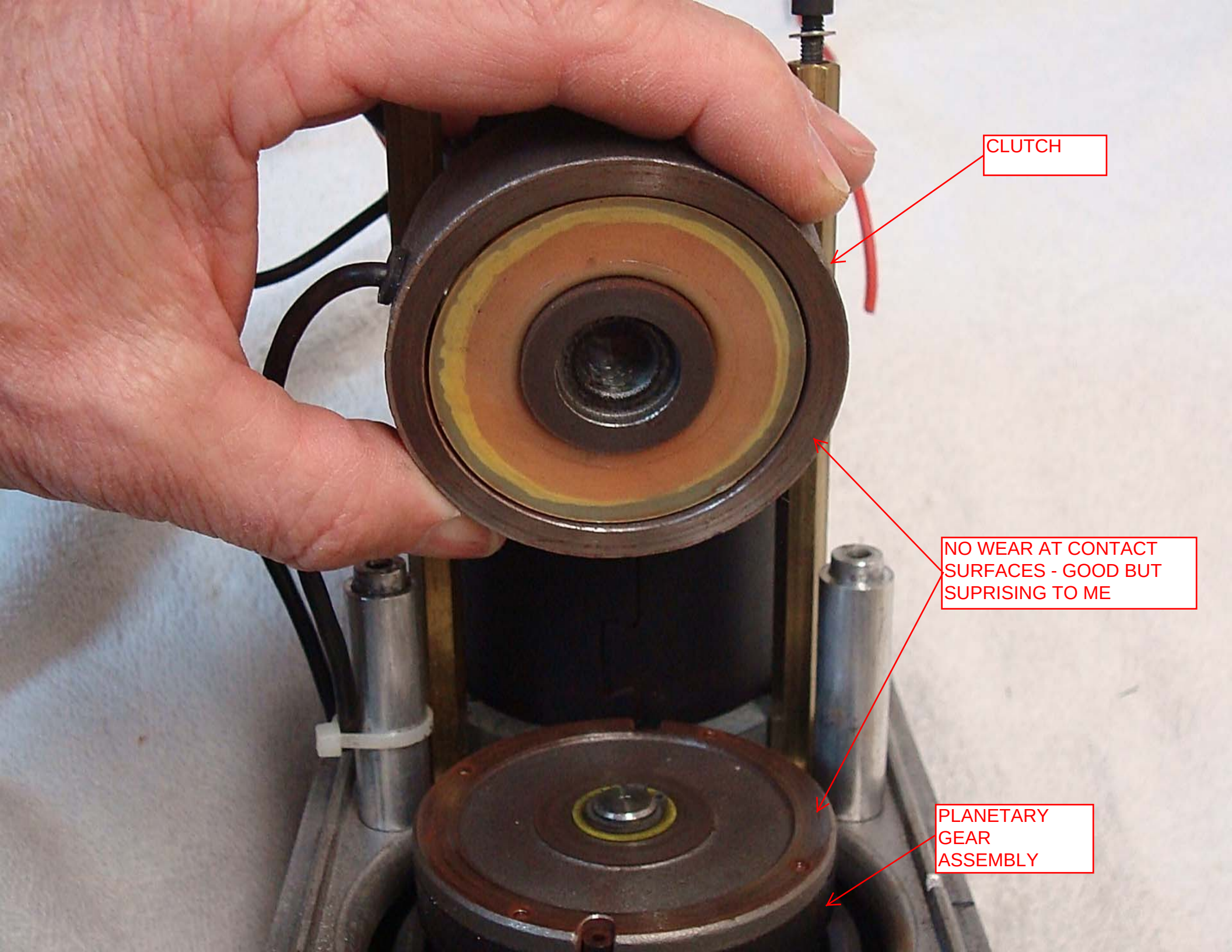
CLUTCH
RETRACTOR SPRING
ASSEMBLY

CLUTCH

CLUTCH
PLATE

ANTI ROTATION PINS
HOLDS CLUTCH FROM
ROTATING. 2 PLACES

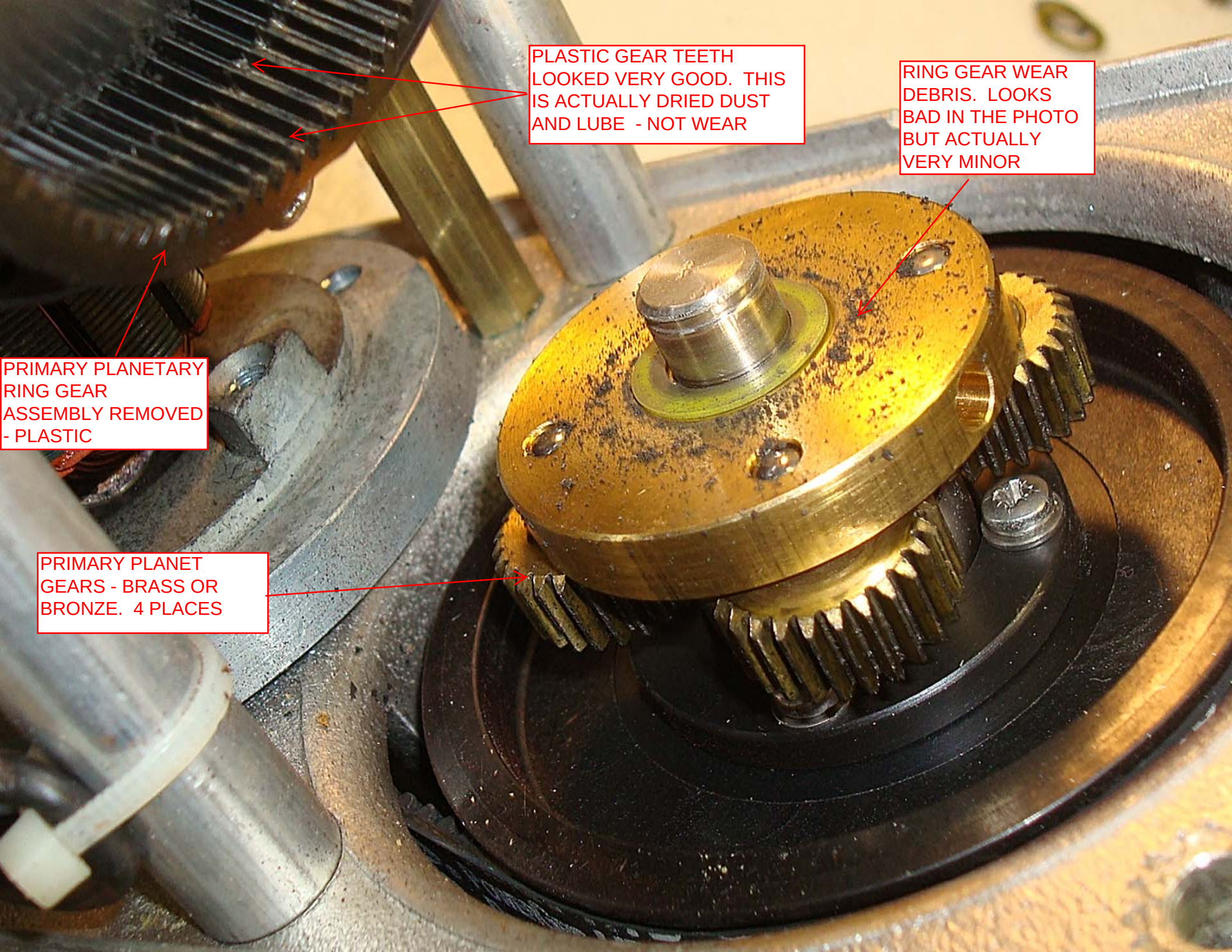




CLUTCH

NO WEAR AT CONTACT
SURFACES - GOOD BUT
SUPRISING TO ME

PLANETARY
GEAR
ASSEMBLY



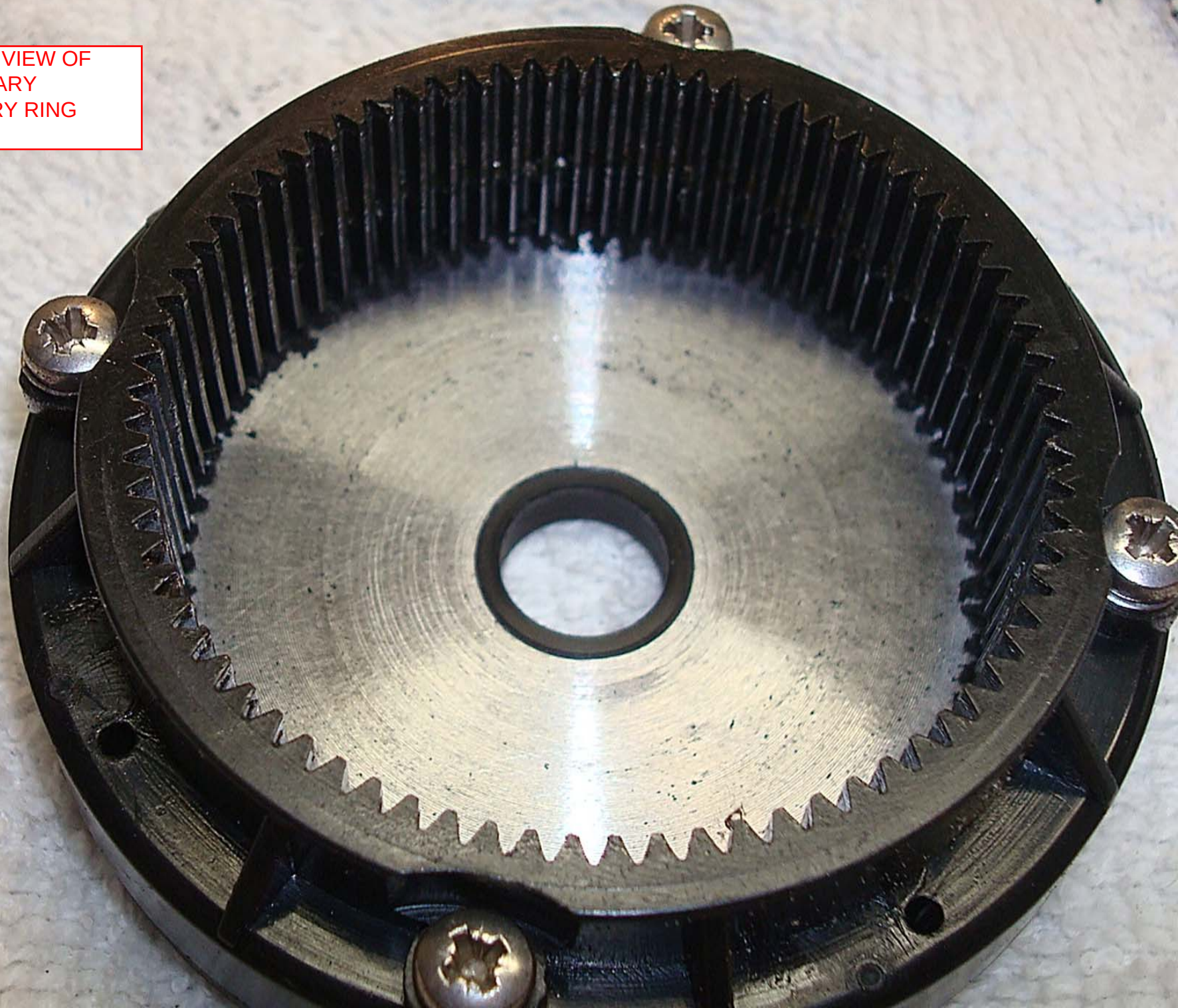
PLASTIC GEAR TEETH
LOOKED VERY GOOD. THIS
IS ACTUALLY DRIED DUST
AND LUBE - NOT WEAR

RING GEAR WEAR
DEBRIS. LOOKS
BAD IN THE PHOTO
BUT ACTUALLY
VERY MINOR

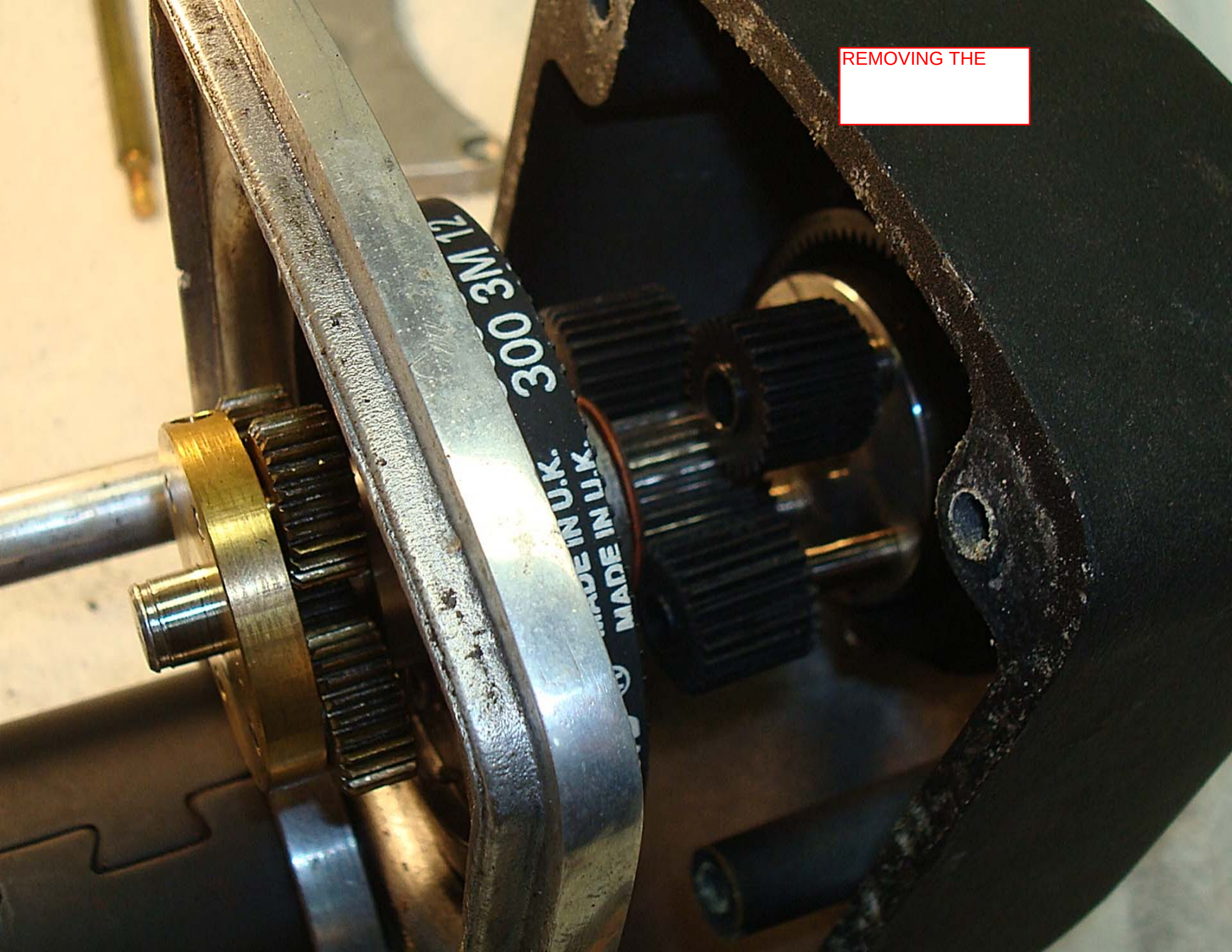
PRIMARY PLANETARY
RING GEAR
ASSEMBLY REMOVED
- PLASTIC

PRIMARY PLANET
GEARS - BRASS OR
BRONZE. 4 PLACES

ANOTHER VIEW OF
THE PRIMARY
PLANETARY RING
GEAR

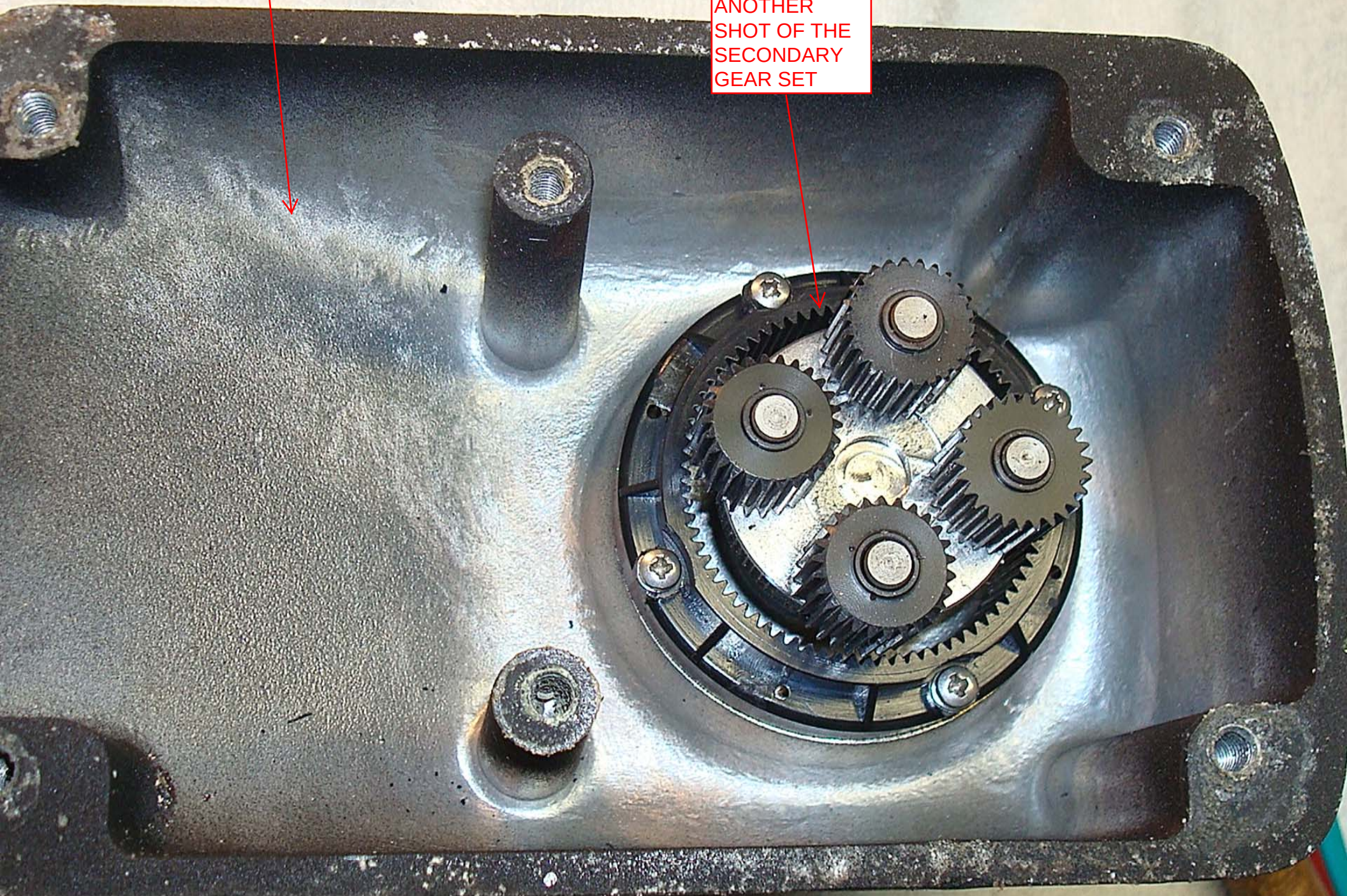


REMOVING THE



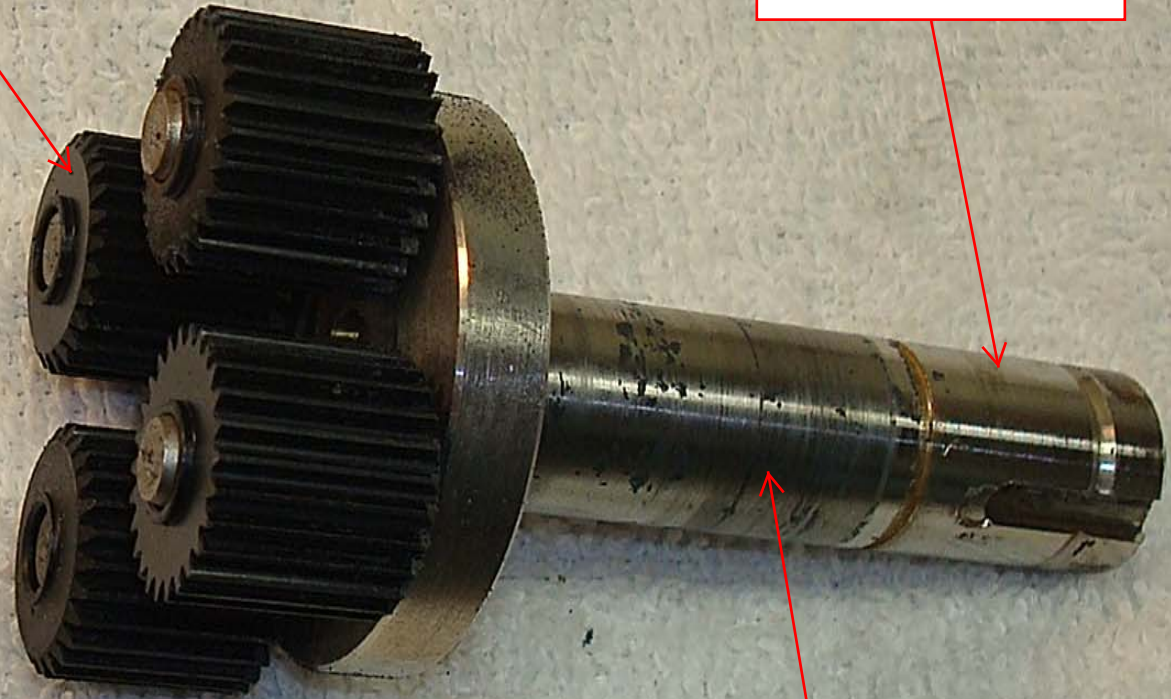
GEAR
HOUSING

ANOTHER
SHOT OF THE
SECONDARY
GEAR SET



SECONDARY PLANET
GEARS - ALL LOOK IN
VERY GOOD CONDITION

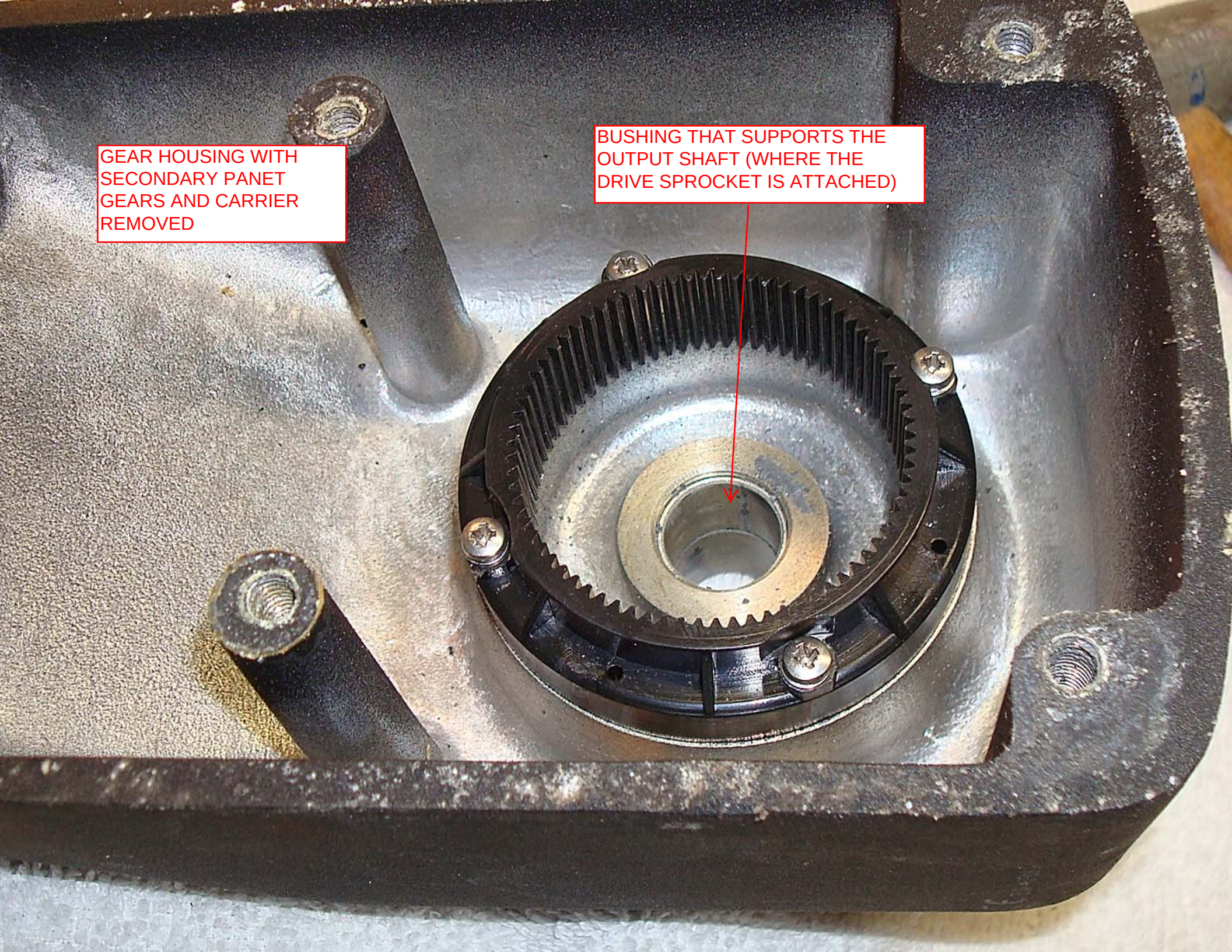
OUTPUT SHAFT WHERE
DRIVE SPROCKET
ATTACHES

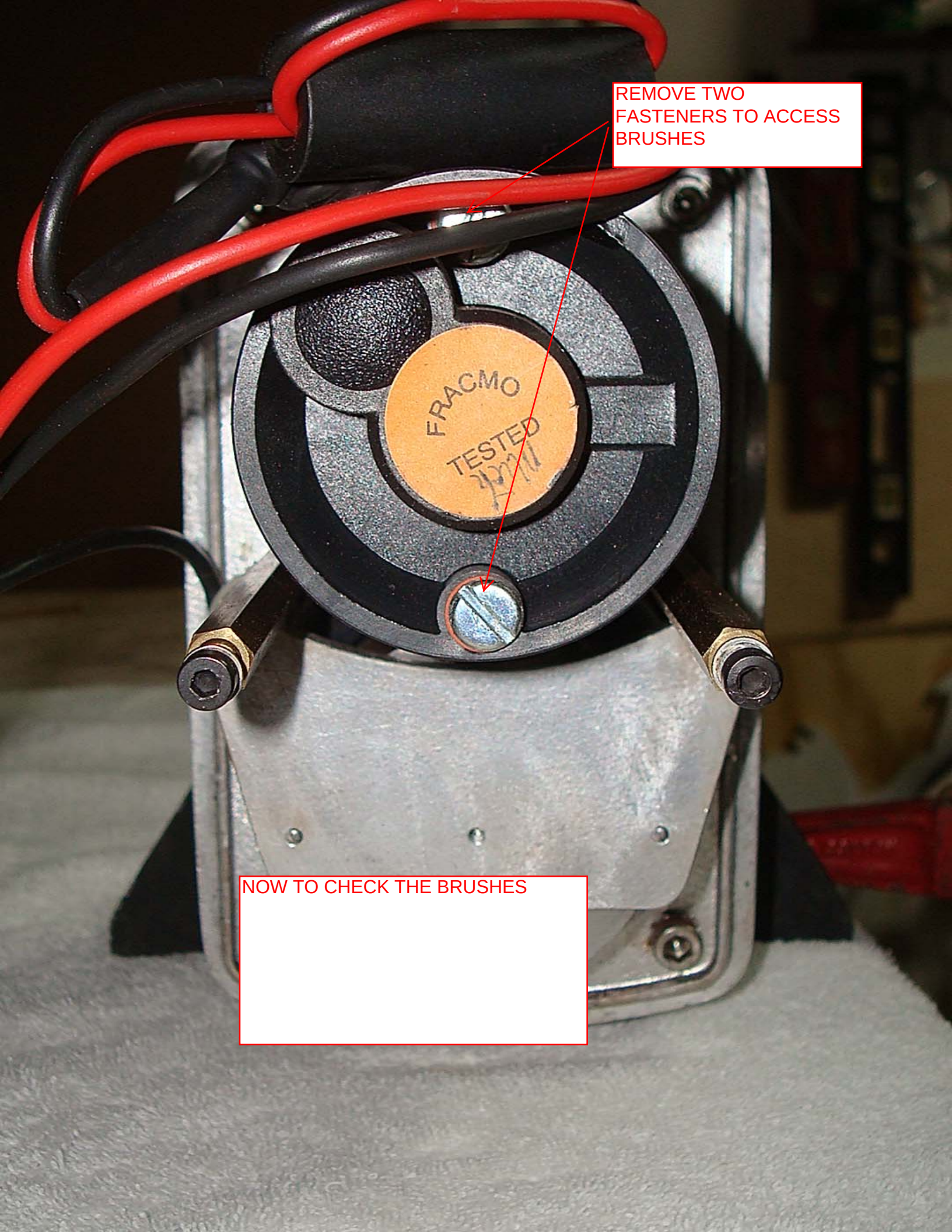


OUTPUT SHAFT BEARING JOURNAL -
THE PHOTO LOOKS WORSE THAN IT
REALLY WAS. THIS CLEANED UP
WITH EMERY CLOTH AND WAS THE
ONLY ITEM THAT I OILED DURING
REASSEMBLY

GEAR HOUSING WITH
SECONDARY PANET
GEARS AND CARRIER
REMOVED

BUSHING THAT SUPPORTS THE
OUTPUT SHAFT (WHERE THE
DRIVE SPROCKET IS ATTACHED)





REMOVE TWO
FASTENERS TO ACCESS
BRUSHES

NOW TO CHECK THE BRUSHES

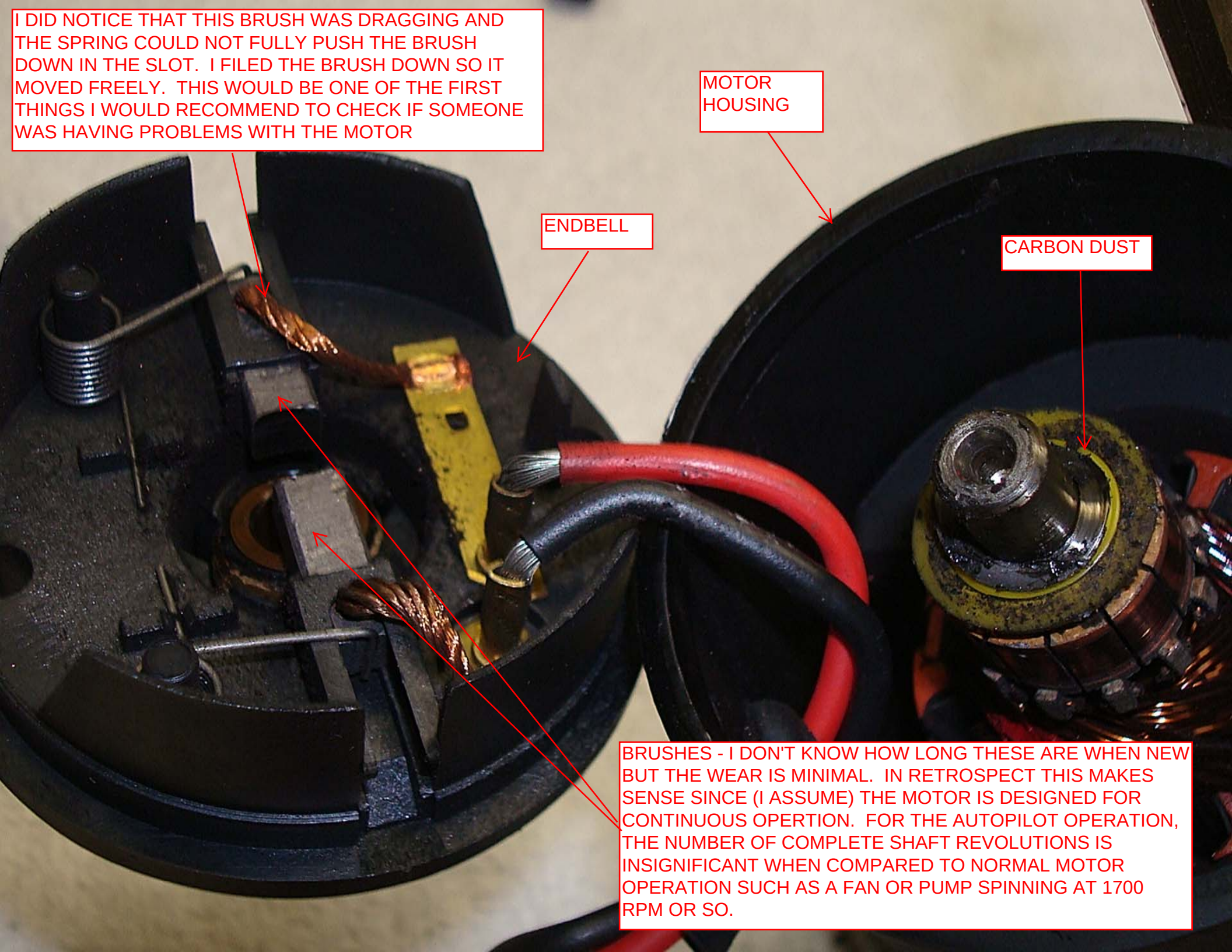
I DID NOTICE THAT THIS BRUSH WAS DRAGGING AND THE SPRING COULD NOT FULLY PUSH THE BRUSH DOWN IN THE SLOT. I FILED THE BRUSH DOWN SO IT MOVED FREELY. THIS WOULD BE ONE OF THE FIRST THINGS I WOULD RECOMMEND TO CHECK IF SOMEONE WAS HAVING PROBLEMS WITH THE MOTOR

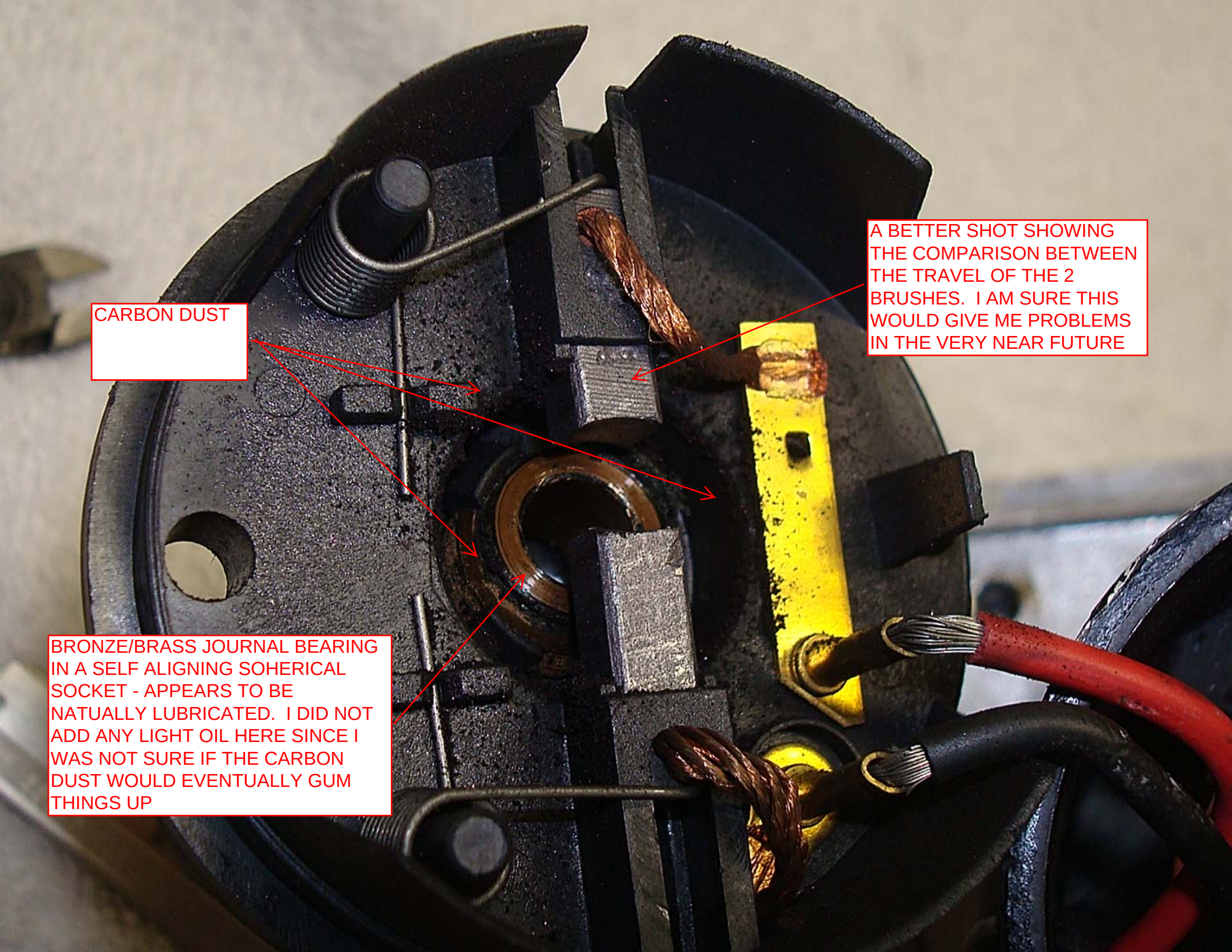
MOTOR HOUSING

ENDBELL

CARBON DUST

BRUSHES - I DON'T KNOW HOW LONG THESE ARE WHEN NEW BUT THE WEAR IS MINIMAL. IN RETROSPECT THIS MAKES SENSE SINCE (I ASSUME) THE MOTOR IS DESIGNED FOR CONTINUOUS OPERATION. FOR THE AUTOPILOT OPERATION, THE NUMBER OF COMPLETE SHAFT REVOLUTIONS IS INSIGNIFICANT WHEN COMPARED TO NORMAL MOTOR OPERATION SUCH AS A FAN OR PUMP SPINNING AT 1700 RPM OR SO.





CARBON DUST

A BETTER SHOT SHOWING
THE COMPARISON BETWEEN
THE TRAVEL OF THE 2
BRUSHES. I AM SURE THIS
WOULD GIVE ME PROBLEMS
IN THE VERY NEAR FUTURE

BRONZE/BRASS JOURNAL BEARING
IN A SELF ALIGNING SOHERICAL
SOCKET - APPEARS TO BE
NATUALLY LUBRICATED. I DID NOT
ADD ANY LIGHT OIL HERE SINCE I
WAS NOT SURE IF THE CARBON
DUST WOULD EVENTUALLY GUM
THINGS UP

MOTOR
HOUSING
REMOVED

