

NEW PLUGS (568 4/77)

429 - 434.3 CK RIDE HAT UP FOR RE-TORQUES / SET VALUES,

470 - 29 MARCH 77

- Δ OIL - ENGINE: 3 1/2 QT GTX + FRAM PH 35 FILTER (20W-50)
- GEARBOX: 500CC DA SPEEDSPORT GEAR OIL (90WT)
- PRIMARY:

REMOVE OIL HEAD DRAIN (#4)

- 1 TEST GUIDES @ TT ALL OK
- CK TRAPPER BLOCK SURFACES - OK

REMOVE PRIMARY COVER - TAKE UP ON CLUTCH SPRINGS | TURN - ADJUST CLUTCH

CK PRIMARY PLAY - OK (5")

FILL W/ 220 CC 10W-40 & 130 CC 20W-50 (CASTROL)

REMOVE CAM GEAR COVER TO CK IDLER SPINDLE FOR LOOSENESS IN CASE TIGHT (OK)

REPL. PT. SEAL. W/ DIFFERENT KIND.

TIMING: YELLOW .015 / 16° BTDC (TOOK 2 HRS TO TIME)
WHITE .015 / 16° BTDC

480-483 TEST - STILL NOISY NOW WHAT?

530 - 9 APRIL 77

RAISE CARB NEEDLE INOTCH (NOW ON RICHEST SETTING) TO CURE 'LEAN-OFF' IDE' PROBLEM - OK.

568 - 11 APRIL 77

TOO RICH @ LIGHT THROTTLE - RIM OF PLUGS SHOW BLACK - BACK TO 2ND NOTCH

NEW PLUGS - B-7ES

NEEDLE MARKED: □ 6 DH 2
SLIDE " : □ 2.5

590 12 APRIL 77

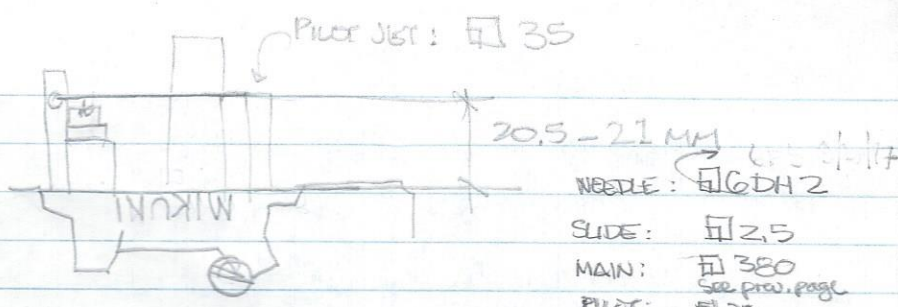
HEAD OFF (#5) : OIL LEAK @ TOP OF I PUSHER TUBE
O-ring cut - Thick/thin O-ring combination now too thick -
go to thin/thin setup.

TIMING COVER OFF : Look for noise

1- Slider block for oil pump - clearance .001^s-.004^s - cut .004^s on new block. make 3 mil. Shim. may try that

7 MAY 77

PEEK INTO CARBURATOR:
FLOET LEVEL:



#35 : PILOT JET : METERS FUEL : IN → LEAN OUT → RICH
 SET @ 1 TURN OUT.
 SIZE BY WIRE GA. #74 - #75 ∴ .0225 - .0210" (#76 - #77
 "NO 60" "60" .020 - .018")

14 MAY 77 1112

SET VALVE CLEARANCES W/SPECIAL MADE DIO FIBER GAUGE - Some may have been loose.

23 MAY 77 1302

CK TIMING - Yellow (LHS): .013/11° → re-set to .015/15°
 White (RHS): .015/15°

27 MAY 77 1333

CK VALVE CLEARANCES - RHS E&I may have been loose - (set all to .010)

31 MAY 77 1443 (After hard ride w/Felix - Set)

CK TIMING Yellow (LHS): .011/13 → reset to .015/15°
 White (RHS): .017/18

2 JUNE 77 1506 Δ PRIMARY - 350 CC 20WT ND.

9 JUNE 77 1685. CK VALVE CLEARANCES - RHS E&I + LHS I LOOSE : Set to .010 (all)
 CLEAN AIR CLEANER - (SOLVENT/TRICHLOR/AIR)

14 JUNE 77 1772. CK timing : both close; reset exact (15°/015°)
 Clean/gap plugs

15 JUNE 77 1802 - Tappet clearance ck (for noise) LHS E loose: all others O.K.
 Plugs : clean @ electrodes/insulator - BLACK @ rim - reduce idle mix screw from 1 turn to 3/4 turn.

16 JAN 77 1841

STILL SOUNDS RICH - Lower needle to middle notch (again!)

18 JAN 77 1873 CK VALVE CLEARANCES - BOTH E LOOSE - reset to .010 (100 miles)

22 JAN 77 1923 Δ CARB SLIDE FROM 2.5 TO 3.0 - better part throttle running
 Clean off plugs → NEEDLE ON SECOND FROM BOTTOM NOTCH

27 JAN 77 1971

CK VALVE CLEARANCES (~100 miles) RHS E&I loose - Remove all adj.

Screws: E breaking up worse than I - in order of descending wear: RHS(E), LHS(E)
 Repl. temporarily w/old screws - Set @ .010 (all)

CK TIMING (~200 mi) Yellow (LHS): 20° + wide gap!
 White (RHS): 11° + narrow
 RHS (I) LHS I

Reset both @ .015 → Y(16°) w(15°) - Reset both to 15° BTDC.

CO (on road) 6500

27 JUNE 77 1978 Δ OIL (3 1/2 QTS GTX) (NOT FILTERZ)
LUBE CHAIN / SWING ARM

7 JULY 77 2010 Δ PILOT JET TO #25

9 JULY 77 2027 OK TIMING & VALVE CLEARANCES (grey 500miles)

(grey 500miles) TIMING: Yellow 15° BTDC / White 14 1/2° BTDC OK VAL CLEARANCES 010 OK

6 NOV 77 2331 OK TIMING & VALVE CLEARANCES (u300mi)

Yellow: .015 - /15° WHIT: .015 - /14° OK LHS I slightly loose

Ping under load - ?

21 AUG 77 2516 Δ PRIMARY OIL: 350CC 20WT ND / OK PRIMARY CHAIN - OK,
OK TIMING (~500MI): Yellow: .012 / 11° BTDC White: .017 / 19° BTDC

Reset both points to .015 → 15° BTDC on each.

OK VALVE CLEARANCES: LHS I slightly loose(?) E loose(?)

causing ping?

RHS OK.

1 SEPT 77 2594 - BAD PING UNDER UPHILL LOAD (AFTR RIDG TO SF)

OK TIMING: Yellow: .019 / 19° White: .010 / 10° BTDC

PT GAP CHANGED AGAIN: ONLY 78 MILES! (change opposite of last one - same as one before that (27 Jan))

6 SEPT 2651 (57 MILES) PING AGAIN

OK TIMING: Yellow: .012 / 11° White: .017 / 17° (opposite of last change)

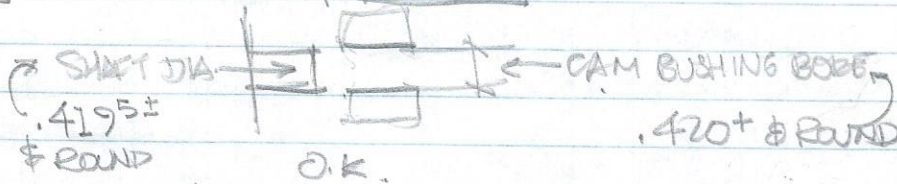
Reset to 015 / 15° - worn timing cam? - ck next time.

11 SEPT 2687

TIMING OFF AGAIN! Yellow: .015 White: .012

REMOVE POINT PLATES @ ADV. MECHANISM TO INSPECT

ADV. MECH:



- DISASSEMBLE / CLEAN / LUBE (W.B. GREASE) LIGHTLY - O.K. RE-TIME

CAM LUBE: SILICON GREASE

- OK VALVE CLEARANCES mostly O.K. closed RHE I a bit closed. LHS E a bit

2719 - TO GEEGE'S & BACK - PING!

OK TIMING - Yellow: .013+ White: .015 Close enough (Reset yellow)

CARBURETOR ?? Slight advance + slightly lean → Ping? changed to leaner. slide & it started - RAISE NEEDLE 1 NOTCH (NOW ON BOTTOM NORM)

Down to Botanical Garden & back - No ping - Cool evening / bike - ck it out going to SF tomorrow.

9.80

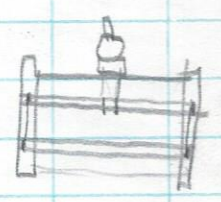
FRONT SUSPENSION WORKSHEET

(80)FS-1

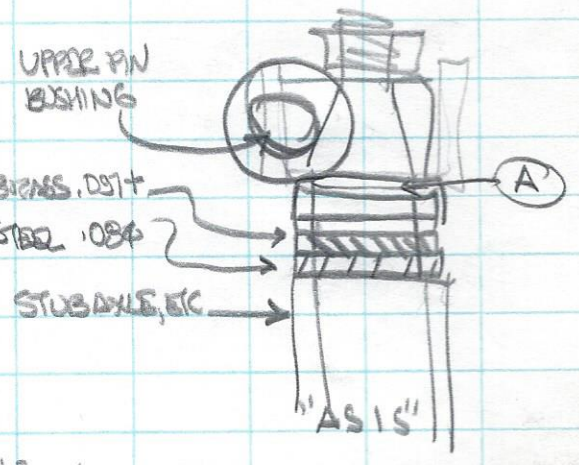
8-9/80
5069 km

OUTER PINS WORN (ALL 4) GRIND/HARD CHROME/CENTRECKSS GEARD
(17,700 km) TO ORIG SIZE 1 WARD HARD CHROME
5/72 (ref: ROSS @ GEARWORKS)

RE: BUSH OUTERS W/MERCEDES STOCK (BOS MELLOW)
MACHINE O.D TO FIT (GEO NEWELL)
UPPER - CONTINUOUS BUSH W/GREASE HOLE.
LOWER - 2 PC JUST LONG ENOUGH TO MEET
GREASE FITTING HOLE



KINGPIN/ADJ : WORN BOTH SIDES!
LHS: Upper part doesn't seat on taper
CORRECT: remove ~~brass~~ brass (.097) spacer → BRASS .097
SHIM @ (A) W W/MISSION SHIMS (RED): STEEL .084
.046 + (STUB AXLE, ETC



RHS: End float
CORRECT: SHIM @ (A) W/.012 W/MISSION SHIM

INNER PINS PIN DIA, UNWORN (@ CENTER): 0.9445

LHS: UPPER: worn ~ 3 mil RHS UPPER: worn ~ 4 mil
LOWER: " ~ 1.2 mil LOWER: " ~ 2.5 mil

<u>BUSHING MTRS</u>										
		IN	OUT	IN	OUT	RHS	IN	OUT	IN	OUT
LHS	UPPER	↔	↕	↕	↕	UPPER	↔	↕	↕	↕
948 2 1/2 ecc	945-948 FRONT	948	948	945 ^S	946	FRONT	FRONT			
950 2 ecc	REAR	948	950	948 ^S	948	REAR				
	LOWER	↔			↕	LOWER				
947 ^S - .002 ecc	945 ^S -947 ^S FRONT	946	947	945 ^S	946 ^S	FRONT				
947 OK	947 REAR	947	948	947	947	REAR				

↓
NEXT PAGE

PIN DRAWN: .9445

BUSHING MEAS

LHS	←→		↕		RANGE	ECC.	MIL MAX OVER	PIN WEAR
	INSIDE	OUTSIDE	INSIDE	OUTSIDE				
UPPER FRONT	948	948	945 ^S	946	945 - 948	2½	3½	~3
REAR	949	950	948 ^S	948	948-950	2	5½	
LOWER FRONT	946	947 ^S	945 ^S	946 ^S	945 - 947 ^S	1	3	~1.2
REAR	947	948	947	947	947	0+	2½	

RHS	←→		↕		RANGE	ECC.	MIL MAX OVER	PIN WEAR
	IN	OUT	IN	OUT				
UPPER FRONT	949	948+	949	946	946-949	3	4½	~4
REAR	948 ^S	949 ^B	946 ^Z	947 ^B	946 ^Z -949 ^B	3½	5 ³	
LOWER FRONT	948	948+	947 ^Z	947	947-948+	1+	3½	< .5
REAR	948 ^S	949 ⁶	946 ^B	946	946-949 ⁶	3.4	5'	

PIN WEAR (FROM PREVIOUS SH)

REPORT	IN	←→	OUT	IN	↕	OUT
RHS UPPER REAR	949		946 ^S	947		947
LHS "	949 ^Z		949 ⁹	947 ^S		948

2	2½	3½
1.9		5 ⁴

LHS	L	←→		↕		LHS	IN	←→	OUT	IN	OUT
		IN	OUT	IN	OUT						
FRONT UPPER		943	943	943 ^S	943 ^S	F.U.	5	5	2	2 ^S	
REAR "	"	941	938 ^B	944	943 ^S	R.U.	8	10 ²	4 ^S	4 ^S	
FRONT LOWER		944 ^S	943 ^S	944 ^S	944	F.L.	1 ^S	4	1	2 ^S	
REAR "	"	944	943 ^Z	944	943 ⁹	R.L.	3	4 ⁷	3	3 ¹	

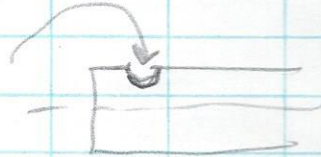
COMBINED PIN/BUSH CLEARANCES

RHS	←→		↕		RHS.	IN	←→	OUT	IN	OUT
	IN	OUT	IN	OUT						
FRONT UPPER	942	942 ^B	942	943 ^B	F.U.	7	5 ²⁺	4 ^B	2 ^Z	
REAR "	941	940 ^S	943 ^B	943 ^B	R.U.	7 ^S	9 ³	2 ⁴	4	
FRONT LOWER	944 ^S	944	944 ^S	944 ^S	F.L.	3 ^S	4 ⁺	2 ⁷	2 ⁷	
REAR "	943 ^Z	942 ^S	942	943 ^Z	R.L.	5 ^Z	6 ⁹	4 ⁶	2 ^B	

7	5 ²⁺	4 ^B	2 ^Z
7 ^S	9 ³	2 ⁴	4
3 ^S	4 ⁺	2 ⁷	2 ⁷
5 ^Z	6 ⁹	4 ⁶	2 ^B

9.19 FIT INSIDE PINS (HARD CHROME/GROUND TO STD)
 RHS LOWER - 'TIGHTEST'
 LHS LOWER - IS THE 'LOOSEST' OF THE 4, BUT FEELS VERY GOOD
 (I.E. OTHER 3 ARE SLIGHTLY 'TIGHT')

9.20 RHS
 FILE BOLT RELIEFS TOPIC - INNER PINS
 (OVERPLATED?)



ASSEMBLE RHS -

OUTSIDE (TAPPED) PIN BOLTS: 16mm ϕ T; BOTH LS
 USE ~~RED~~ LOCTITE: (NOT LOCK)
 BLUE

ASSEMBLE LHS W/O SPRING & LOWER SPRING MOUNT -
 SUSP. MOVES FREELY -

ASSEMBLE COMPLETE: (INNER PIN RELIEFS FILED AS RHS, ABOVE)

[ALL ASSEMBLY W/MOLYKOTE PASTE]

BOTH SIDES VERY STIFF: SMALL SUSP. TRAVEL W/JACK - NONE
 W/CAR ON GROUND & LEAN (CAREFULLY) ON CENTER

9.21 COMPARE SUSPENSION W/JOSEPH'S SWIS, ABOUT THE SAME STIFFNESS - OK
 BRAKES PULL TO LEFT (LF LOCKS BEFORE RF) - BLEED & ADJUSTED
 AGAIN - NO HELP.

9.22 INSERT BOTH SIDES - SHOES/DRUMS (SAND) : OK PISTON/CYLS FOR
 OPERATION: OK (RHS TOP A BIT 'STICKY' - FEED & WASH W/ASSIGNMENT
 FLUID) NO HELP.

9.25 PRESSURE BLEED - NO AIR NO HELP

9.26 OVERHAUL (F) BRAKE EQUALIZER: FILTHY AGAIN! REAR LOWER RUBBER
 WASHER W/USED (GOOD) SPRADE - OLD ONE SHOWED SCORE MARKS ON OUTSIDE

9.27 TRY BRAKES - SAME AS BEFORE DISASSEMBLE/CLEAN/REFIT PISTONS
 ON RHS. NO HELP STILL. PUMP BLEED & PRESSURE BLEED RHS
 STILL NO HELP. OK BOTH F TO BE SURE SHOES ARE IN PROPER
 PLACES (NO SWITCHED PARTS) ALL OK. | GIVE UP

- NEW PINION BRGES / SEMI / SLEEVE
- NEW RUBBER U-JOINT
- NEW BATTERY

HEADS OFF: NEW VALVES, SEATS, GUIDES, SCREWS

29001 4/93 CON'T

- NEW PINION BRGES (PERL FRONT W/ SPLIT INNER RACE STYLE) + RUBBER U-JOINT
- BORE/BLK SLEEVE IN YOKES (GND)
- WELD/MACHINE DRIVESHAFT "KNOB" TO FIT (GND)

29049

TEST 4/14/93 - NO VIBRATION AT ALL
 MORE CHIPS IN O.P. RELIEF VALVE LOW OP. 3" T OFF BOTTOMS (80 PSI)
 NEW BATTERY (4 SHIMS)

DRIVE HOLE - OIL R. FLUCTUATES W/ RPM 45-75 @ 190+°C O.T.
 REMOVE OIL P. R. VALVE SPRING - FREE LENGTH: 87.5MM
 STRETCH TO 92.5MM, REMOVE SHIMS. - @ 2 TURNS OFF BOTTOM: 60+ PSI
 [OIL P. SPR: 14-24 @ 800]
 [212°F 55-80 @ 6600]

29436

9/13/93 Δ PINION SEAL + SPEED SLEEVE (PATRICK) Δ DIFF OIL: SWSFCO 140
 9/16. Δ MAINS TO 1.55 FOR COLORADO GRAMS⁵ TRUCK 2 EPSI
 OK COUNT: -- 40°F / +20°F TOP UP (~1/2 cup)

316 TO

12/21/93 Δ MAINS TO 1.60 - STD
 Δ OIL / FRANK RUTGE - CLEAN SCREENS (SOME AL IN OIL MOTOR HOUSING)

IT IS

OK VALVE CLEARANCES (MILS) NO ADJ LEFT!

	1	2	3	4	5	6	7	8	9	10	11	12
I	6-	1-	1	1+	0-	3+	0	0	1 1/2	0		1 1/2
E	8	7	8	6+	6	8	6	7	8	8-	6	

ALL INETS CLOSING UP - HEADS OFF FOR SEATS, GUIDES, VALVES (BAD STAM BWS)

- DISASSEMBLE DIST. & DRIVES: BRGES OK - REPL SEALS: # SCREWS
 (CAM: 20x40x7 DIST: 22x40x7)
- PAINT HOUSINGS BRGES CLEAN - OK (REPLACE)

- STRIP / REFINISH OIL COVERS & WIND LOOMS (VAT W/ WINKLE FINISH, BLACK)
- PAINT & DRIVES, DISCS, INLET MANIFS. & SPROCKET COVERS.

619A

INSTALL HEADS
 REPLACE THO HOLES; HEAVY VALVE TO ENGINE, THERMOSTAT BYPASS (7/16") RADIATOR
 TO CYL HEAD (3/8" FUEL IN USE) : 2.

6175A

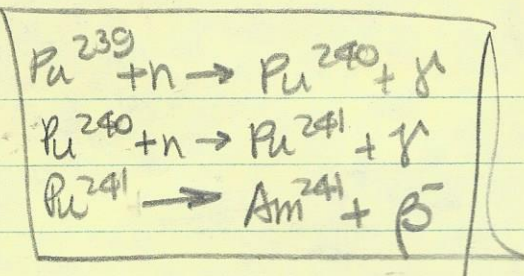
START TEST RUN w/ H2O ONLY OR.

31700

6/21 Δ IDLE SETS TO 60 (STD)
 RETORQUE CYL HEADS. CRK ADJ. VALVE CLEARANCES
 CRK/ADJ VALVES.

CYL	1	2	3	4	5	6	7	8	9	10	11	12
new I	8	6+	9	~11	10	7+	8 1/2	6-	8	6	7	8+
E	9	10	9	9	9	8	8+	10	9-	9 1/2	9	9-

Am²⁴¹ $T_{1/2} = 458 \text{ yrs}$



OTHER ISOTOPIES

- 237
- 238
- 239
- 240
- 242
- 243

β^-



501

Δ SLIDE BACK TO 2.5

SEPT 23 2958 CHASSIS GOOSE / MOTOR W/IDE / PER SLIDE
LUBE SLIDING ARM / CHAIN / GEN PIVOTS (WD 40) / ALL CONTROL CABLES
CLEAN AIR CLEANER: SOLVENT / TECH LUBE / COMP. AIR.

SEPT 27 3005

- PING WHEN HOT: OK WHEN COLD.
- CK TIMING: (160MI ON NEW PIS): YELLOW: $014/15^\circ$ WHT $012-13/12^\circ$
Reasonable!

RESET TO $.015/15^\circ$ EACH

- PLUGS LOOK LEAN. 6DH 12 Needle too lean at lower end.
Combine leanness w/hot engine = Ping?
NEED NEEDLE RICHER @ LOWER END.

5 3010: RAISE NEEDLE TO LAST NOTCH - RUNS OK @ LOW THROTTLE. Will have to try a SF run & back to ck for ping.
(NEXT: Δ SLIDE & USE 6F5)

SEPT 30 3058 STILL PINGS WHEN HOT. PLUGS LOOK SLIGHTLY LEAN
GO BACK TO 2.5 SLIDE & 6DH 12 NEEDLES @ 2ND NOTCH (006) FOR COMPARISON

30 OCT. 3093 STILL PINGS SLIGHTLY WHEN HOT ON MARKED TWIST GEAR:

PING ONLY @ $1/8 - 3/16$ THROTTLE CELESS

OK TIMING Yellow $016/16^\circ$ white $.014/13^\circ$ Reset to $015 \rightarrow 15^\circ$

REMOVE CABLE TO CHART NEEDLE $0 - 1/4$ throttle

$1/4 = 23mm$	6DH2:	2.3mm =	2.511 - 2.466
	6F5	"	2.456 - 2.454

So 6F5 should be richer Try 6F5 w 2.5 slide

+ 8 = 31mm

(meas total of 8mm shield)

4 OCT. 3107 Very rich @ $\sim 1/8$ throttle - 'burble' - Slight ping up Avenida - Changes to middle notch on 6F5 needle - MUCH better @ light throttle - PING up Avenida

5 OCT. 3113 RETARD TIMING: $.015/13^\circ$ BTDC

3151 PINGS AS BAD AS EVER & THROTTLE STICKS @ LOW SPEED SOMETIMES
CB SAYS 'CHANGE PLUGS' - PUT IN SET OF BSE'S (OLD: 6F5)

11 OCT 3213 NEW PLUGS NO HELP

DRAIN GASOLINE - USE 'MOROCCO MIX' FROM SPYDER

12 OCT 3244 BETTER - NO PING @ ACCEL ON FLAT - STILL PINGS UNDER LOAD UP CONTINUAL TURNING ON BOTH FUEL TAPS \rightarrow NO HELP.

RETURN TO 15° BTDC

CK MAINS FOR OBSTRUCTION - NONE