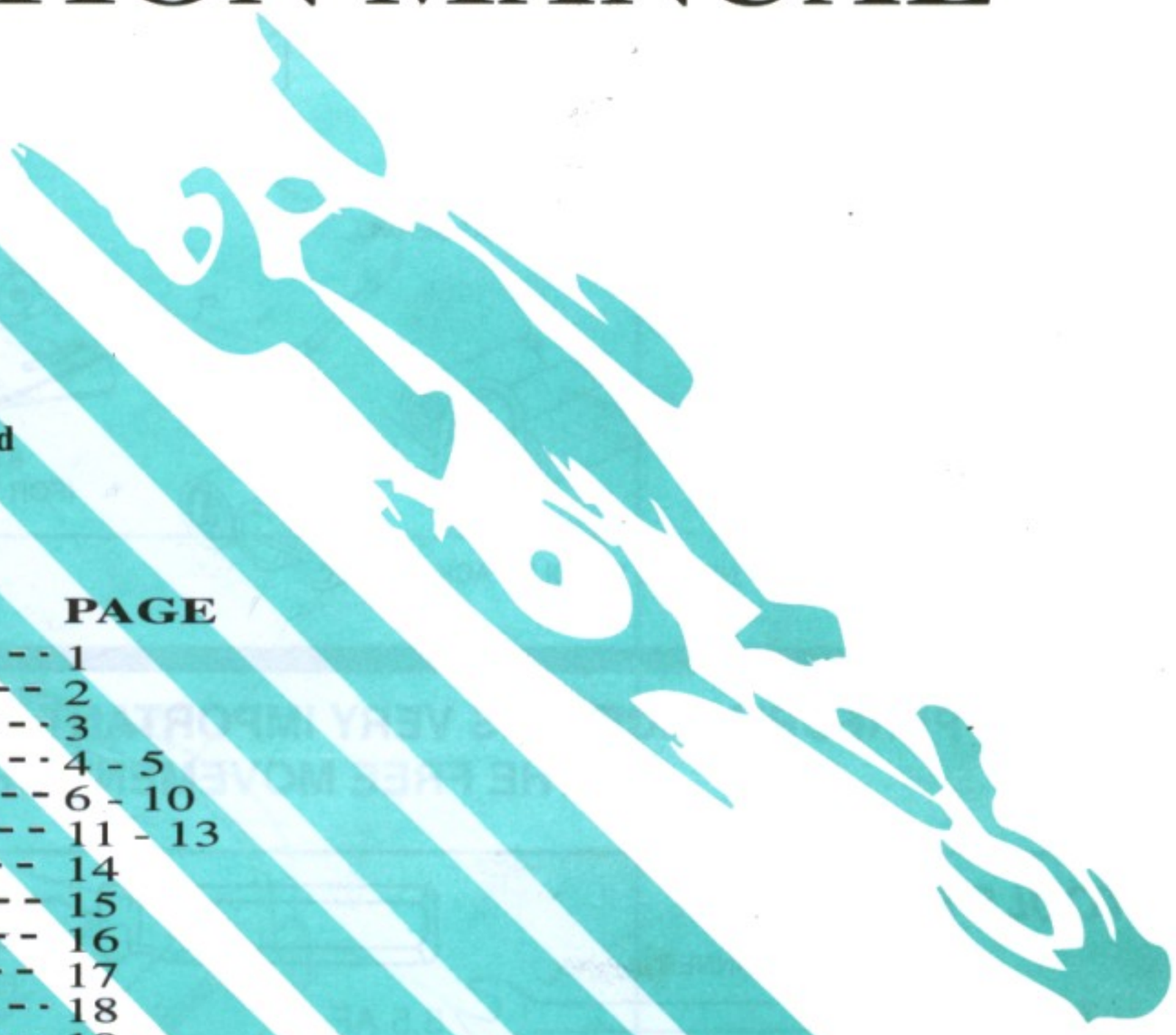
Schumacher

CAT

E.C.

EUROPEAN CHAMPION

INSTRUCTION MANUAL



In line with our policy of continuous development the exact specification of the kit may vary.
MISSING OR DEFECTIVE PARTS
In the unlikely event of problems with your new kit you should contact the model shop where you purchased, quoting part number, bag number and batch number for both the bag and the kit.

CONTENTS **PAGE**

CHASSIS ---------- 1
REAR SUSPENSION ---------- 2
DRIVESHAFTS ---------- 3
TRANSMISSION ---------- 4 - 5
FRONT SUSPENSION ---------- 6 - 10
SHOCK ABSORBERS ---------- 11 - 13
WHEELS & TYRES ---------- 14
BODYSHELL ---------- 15
BUMPER & UNDERTRAY ------ 16
REAR WING & AERIAL ---------- 17
FITTING ELECTRICS ---------- 18
SERVICING CAR ---------- 19
SERVICING DIFFERENTIALS ---- 20 - 21
TRACK SETTINGS ---------- 22 - 25

SCHUMACHER RACING PRODUCTS
71 - 73 Tenter Road
Moulton Park
Northampton
NN3 6AX
ENGLAND

SCHUMACHER USA
6302 Benjamin Road
Suite 404
Tampa
Florida 33634
USA

IMPORTANT SAFETY NOTES

1. This product is not suitable for children under 14 years of age unless supervised by an adult.
2. Select an area for assembly that is away from reach of small children. The parts are small and can be swallowed by children causing choking and possible internal injuries.
3. Shock fluids, grease and adhesives should be kept out of childrens reach. They are not toxic, but were not intended for human consumption.
4. Exercise care when using any hand tools, sharp instruments and power tools during construction.
5. Carefully read all manufacturers warnings and cautions for any glues or paints that may be used for assembly purposes.

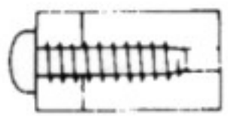


Points where grease should be applied.
(It will reduce friction and assure smooth movement.)

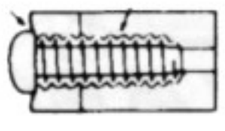


Points where oil should be applied
(Light machine oil, 3 in 1 or similar.)

Do not use excessive force when tightening the self-tapping screws, or you may strip the thread in the plastic.
It is recommended to stop tightening it when the threaded part on the screw goes into the plastic part and you feel some resistance from the tightening.

✔ 

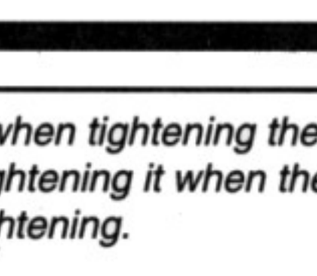
Good

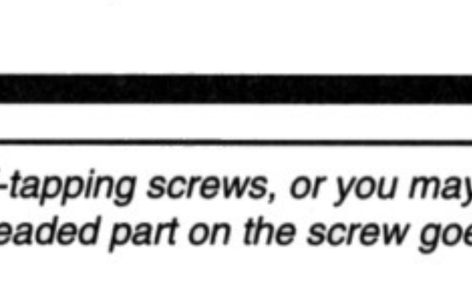
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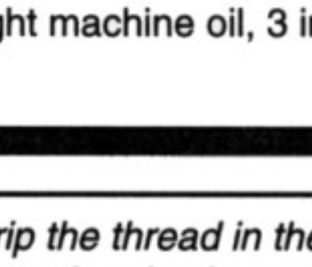
Over tighten and may strip the thread in the plastic

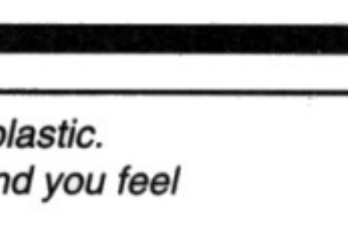
ELECTRICAL ITEMS REQUIRED

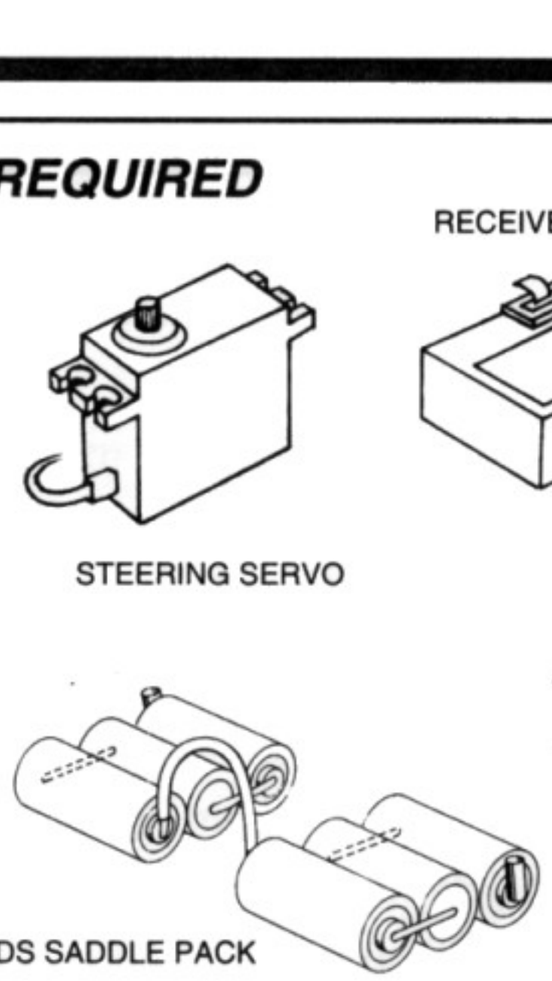
TRANSMITTER


STEERING SERVO

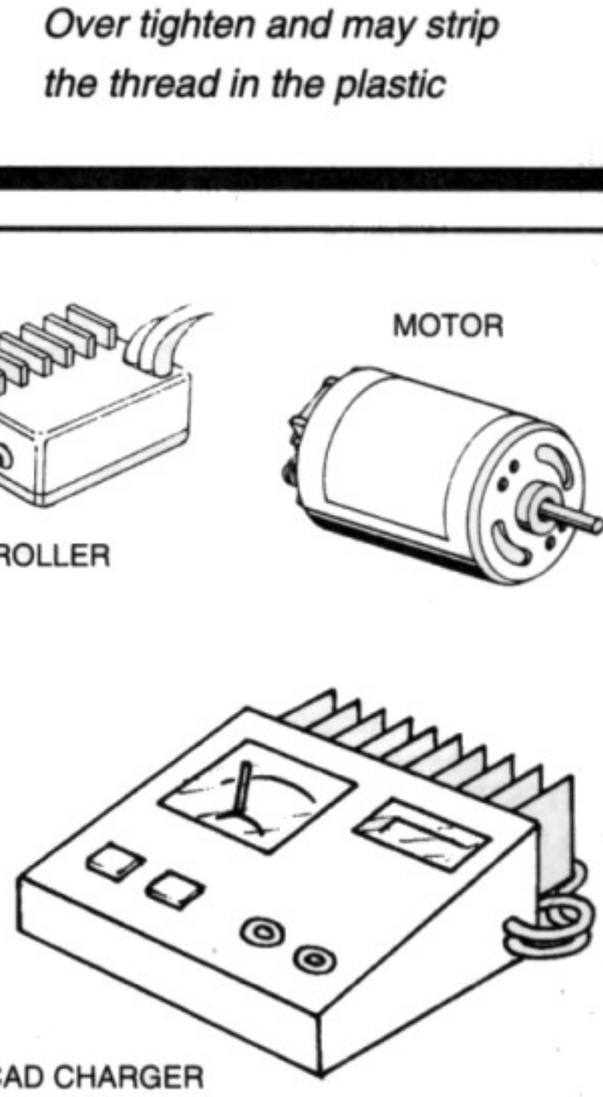

RECEIVER


SPEED CONTROLLER


MOTOR


NICADS SADDLE PACK

8 PEN CELLS
(FOR TRANSMITTER)


NICAD CHARGER

FOR BEST PERFORMANCE, IT IS VERY IMPORTANT THAT GREAT CARE IS TAKEN TO ENSURE THE FREE MOVEMENT OF ALL PARTS.

TOOLS REQUIRED

SPANNER
7.0 AF
5.5 AF


FILE

PLIERS


SCALPEL

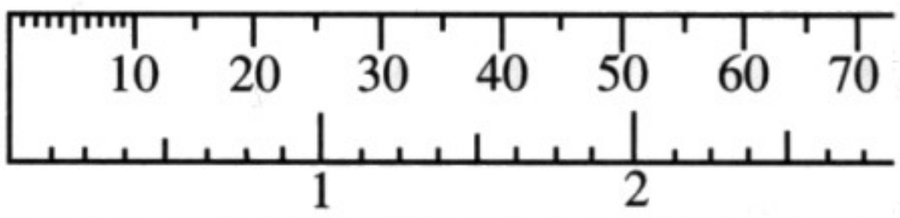

PHILIPS SCREWDRIVER

FLATHEAD SCREWDRIVER

MATERIALS REQUIRED

Silicone oil for shock absorbers
Polycarbonate paint for bodyshell

RULER *INCHES & MILLIMETRES*



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THE NEXT GENERATION

CHASSIS

BAG 1

HARDWARE

A X2
M3 x 12mm CSK SCREW

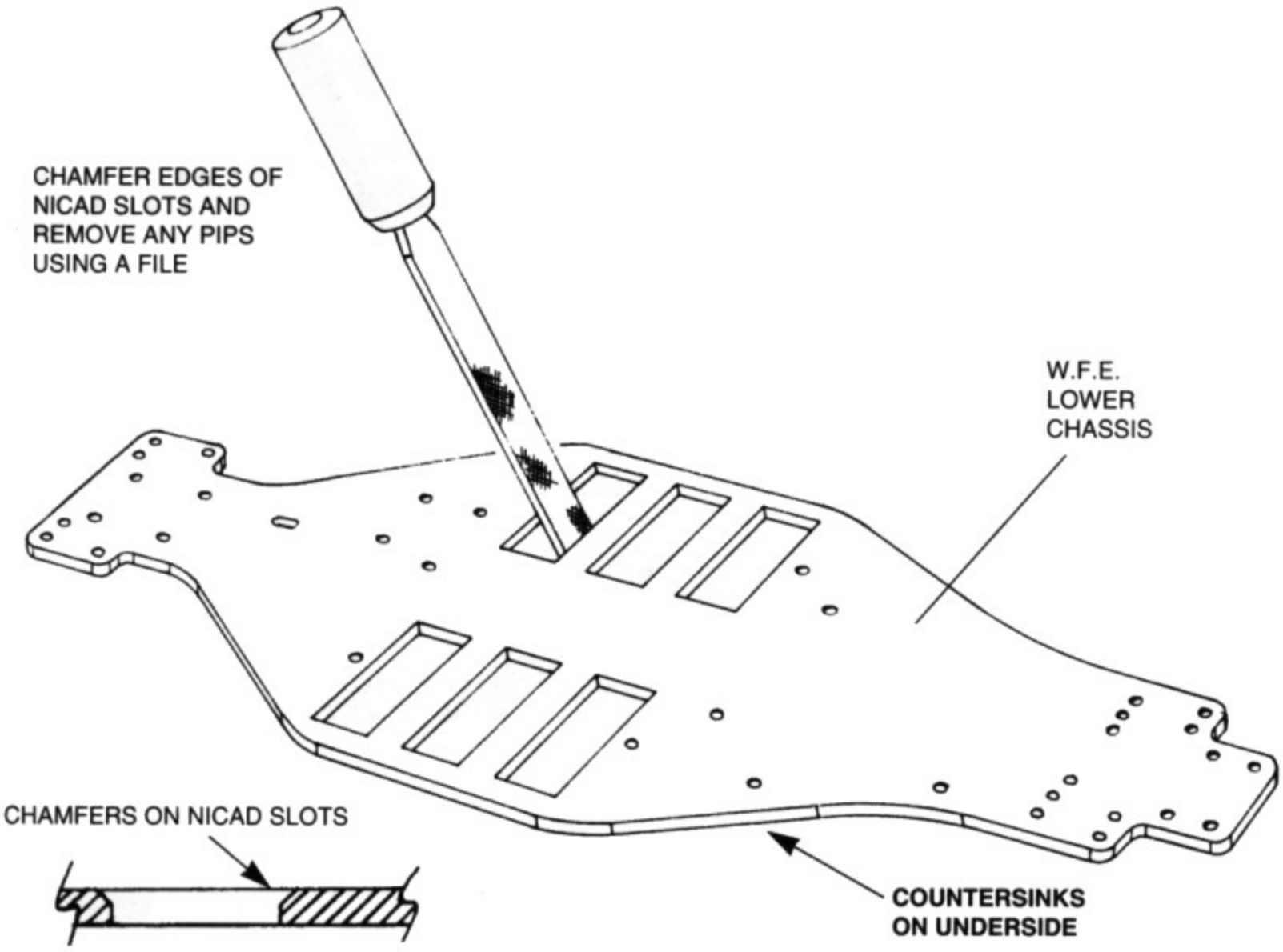
B X4
M3 NYLOC NUT

C X2
M3 STEEL WASHER

D X4
No4 x 3/8" SELFTAP CSK SCREW

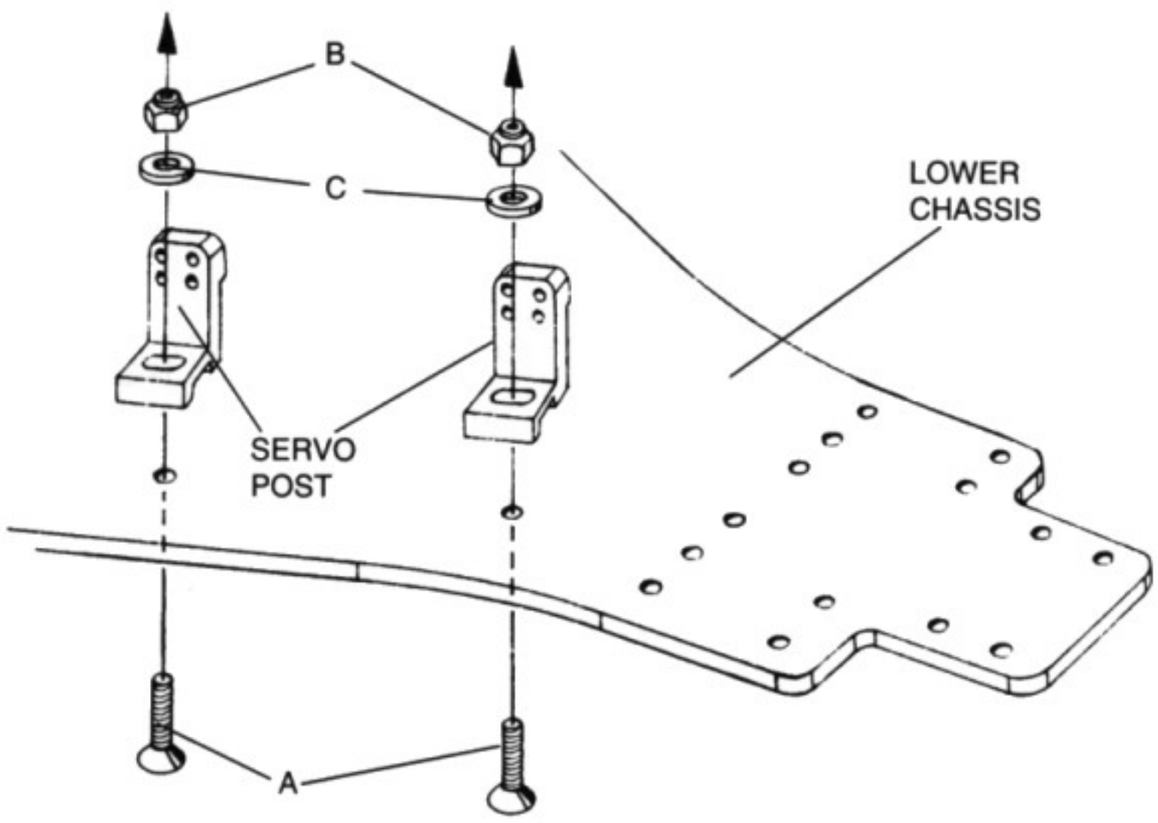
E X2
M3 x 8mm CSK SCREW

1

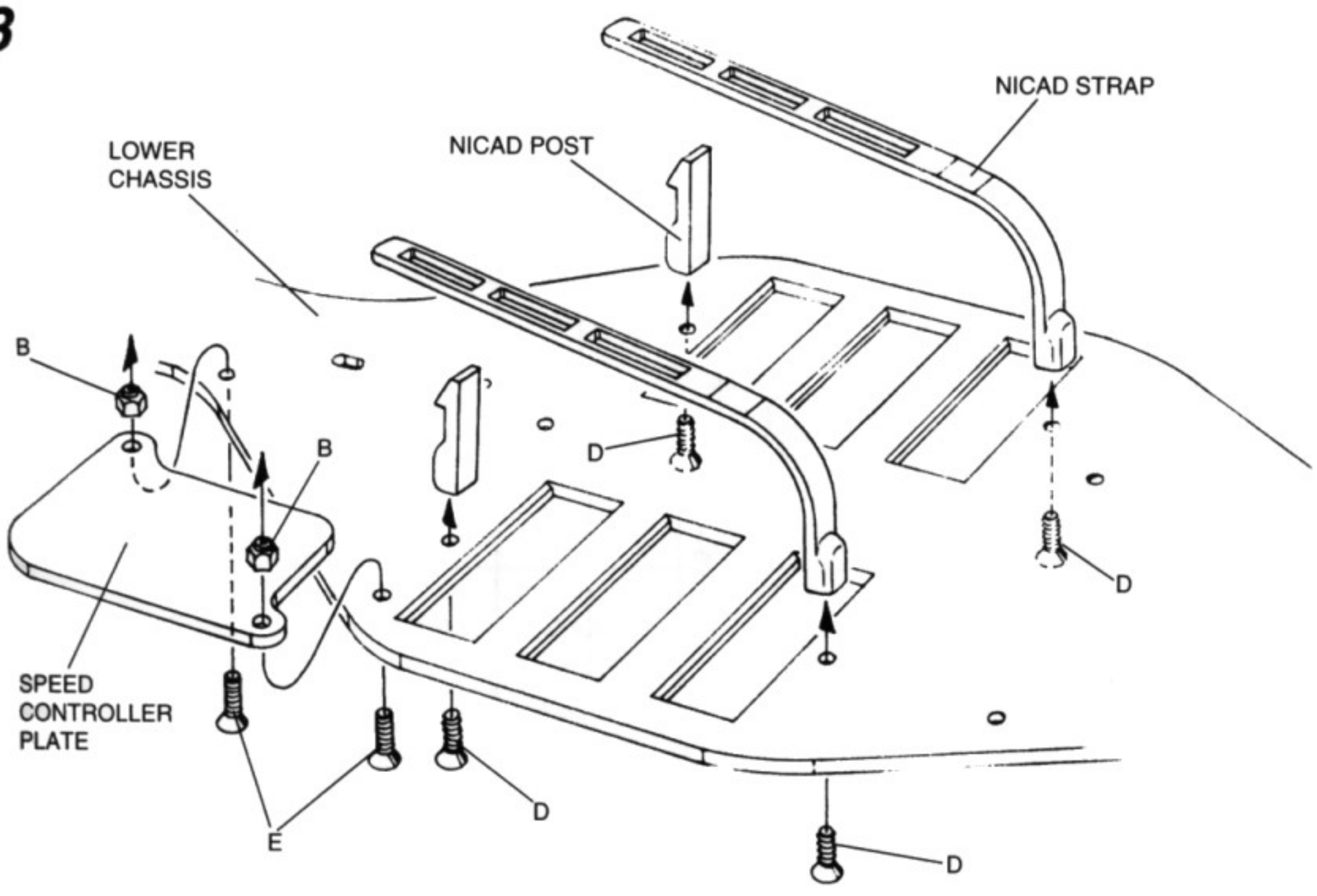


W.F.E. = WOVEN FIBRE EPOXY

2



3



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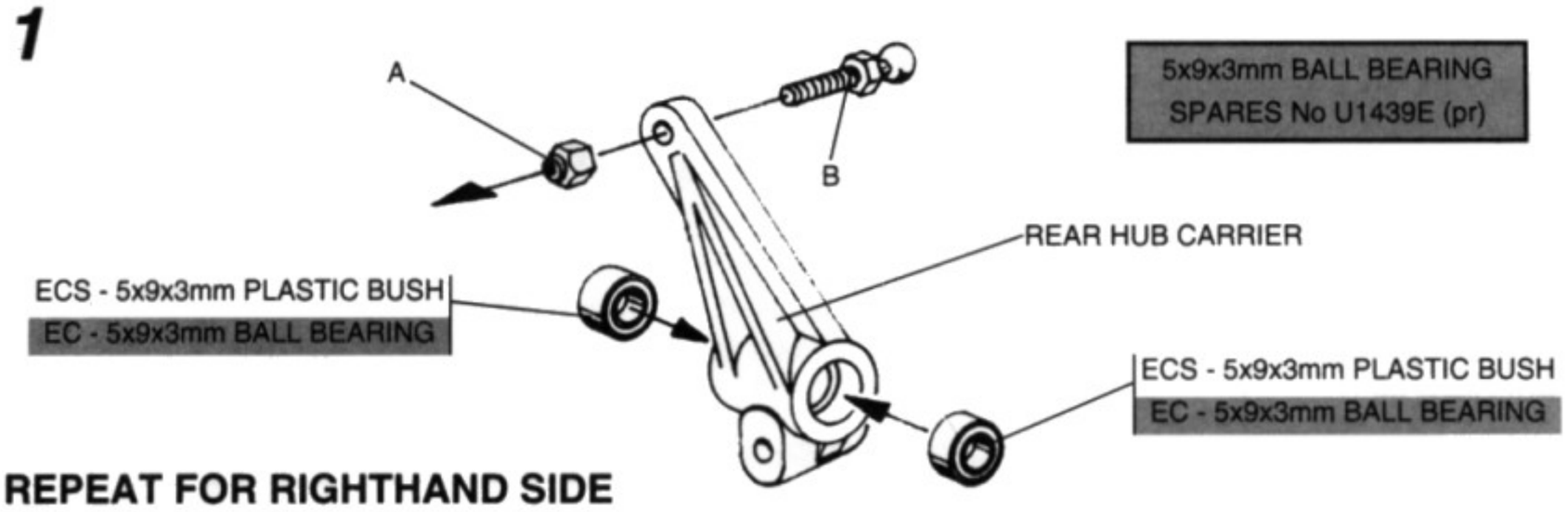
THE NEXT GENERATION

REAR SUSPENSION

BAG 2

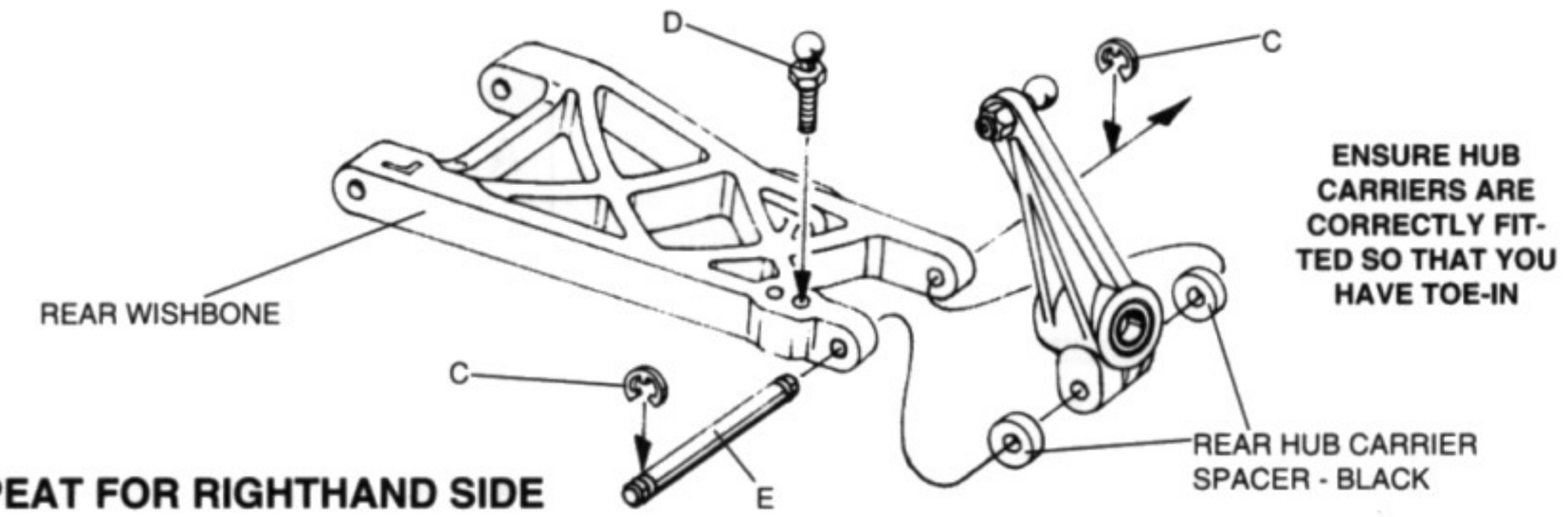
HARDWARE

1



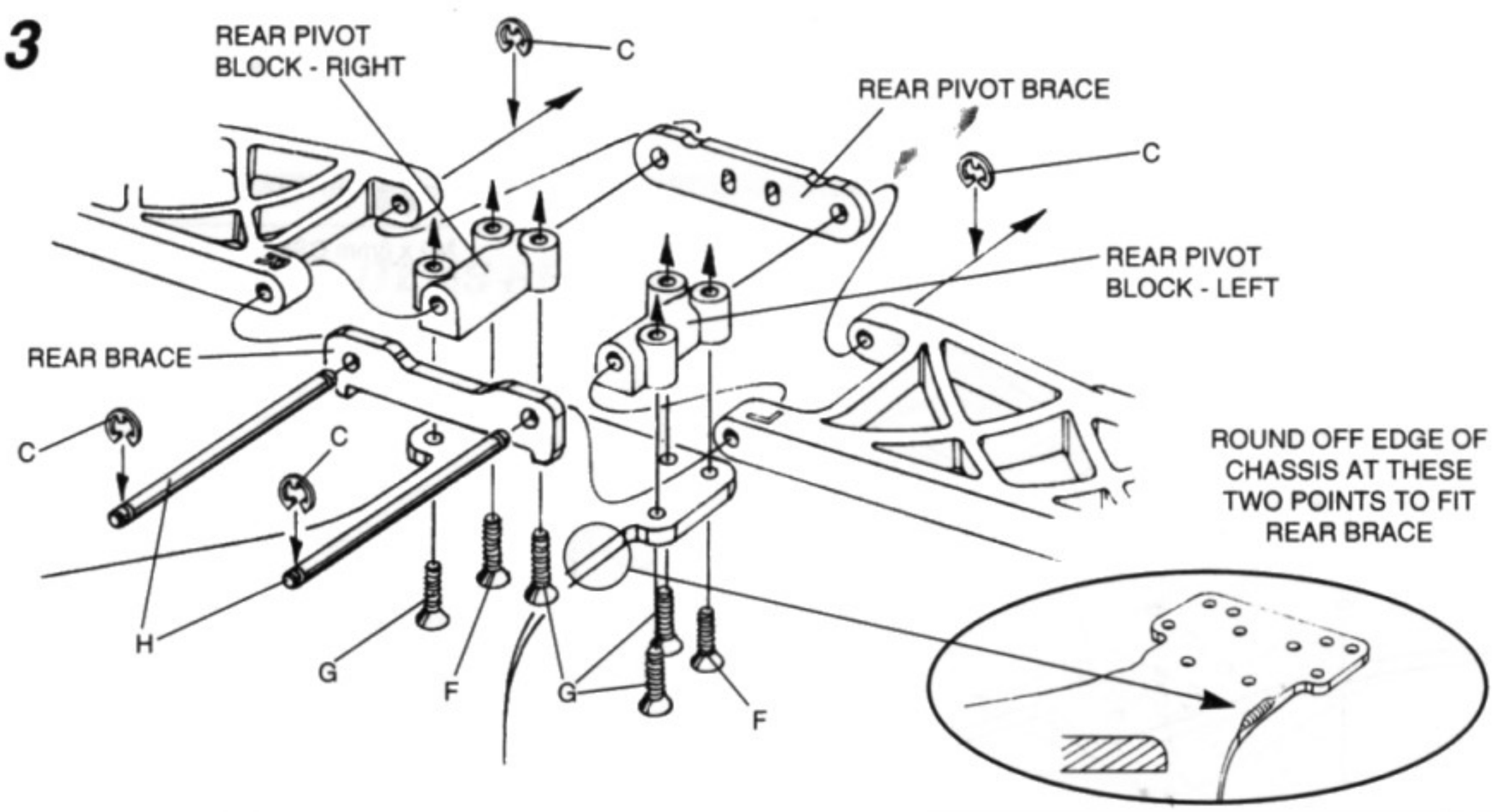
REPEAT FOR RIGHTHAND SIDE

2

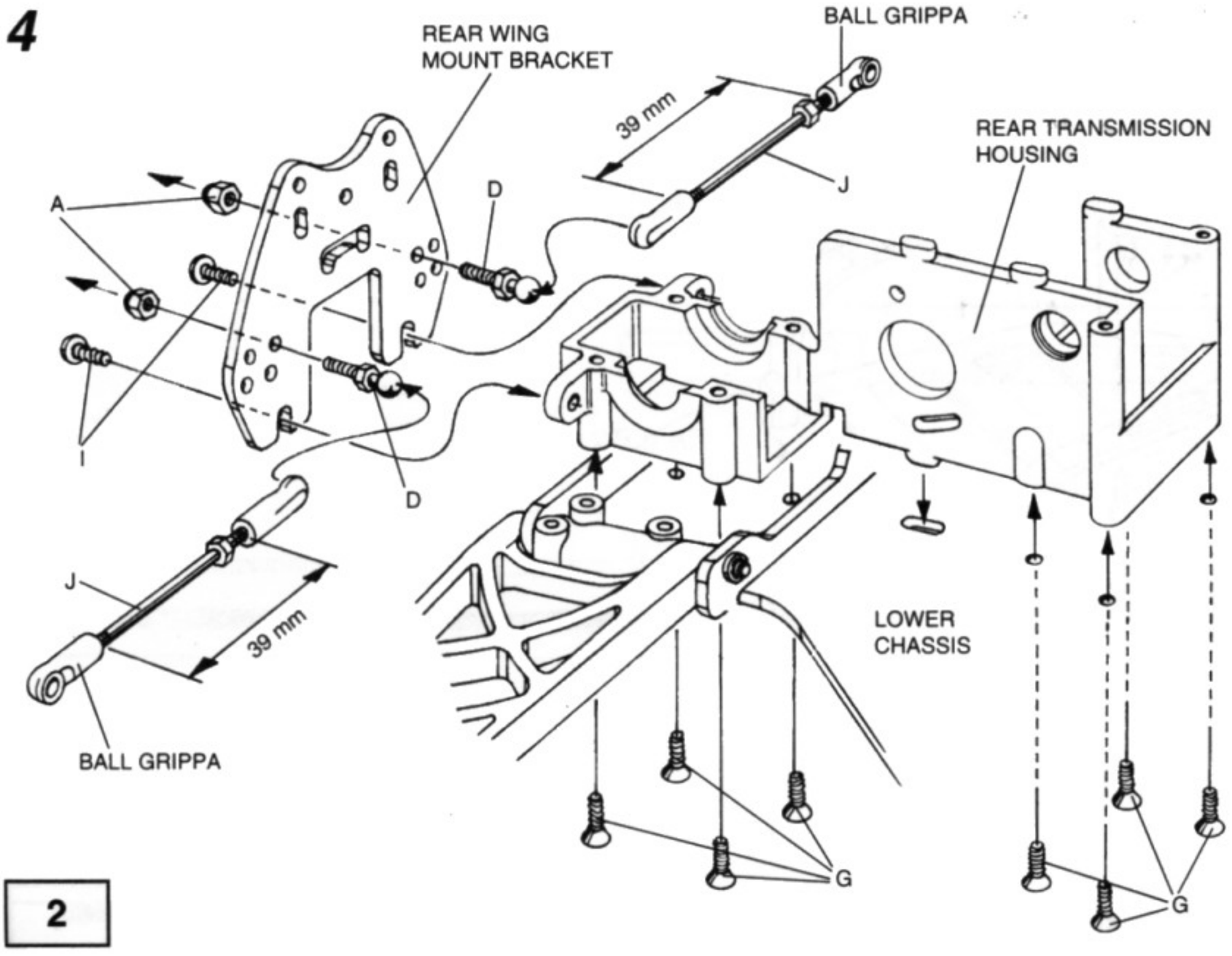


REPEAT FOR RIGHTHAND SIDE

3



4



A X4
M3 NYLOC NUT

B X2
BALL STUD LONG

C X8
'E' CLIP

D X4
BALL STUD SHORT

E X2
29mm LONG 1/8" PIVOT PIN

F X2
M3 x 8mm CSK SCREW

G X12
No4 x 3/8" SELFTAP CSK SCREW

H
48mm LONG 1/8" PIVOT PIN X2

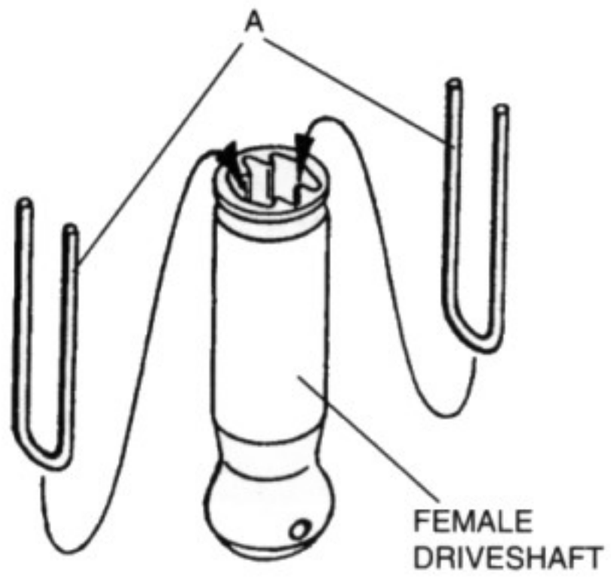
I X2
No4 x 1/4" SELFTAP PANHEAD SCREW

J M3 x 53mm TURNBUCKLE X2

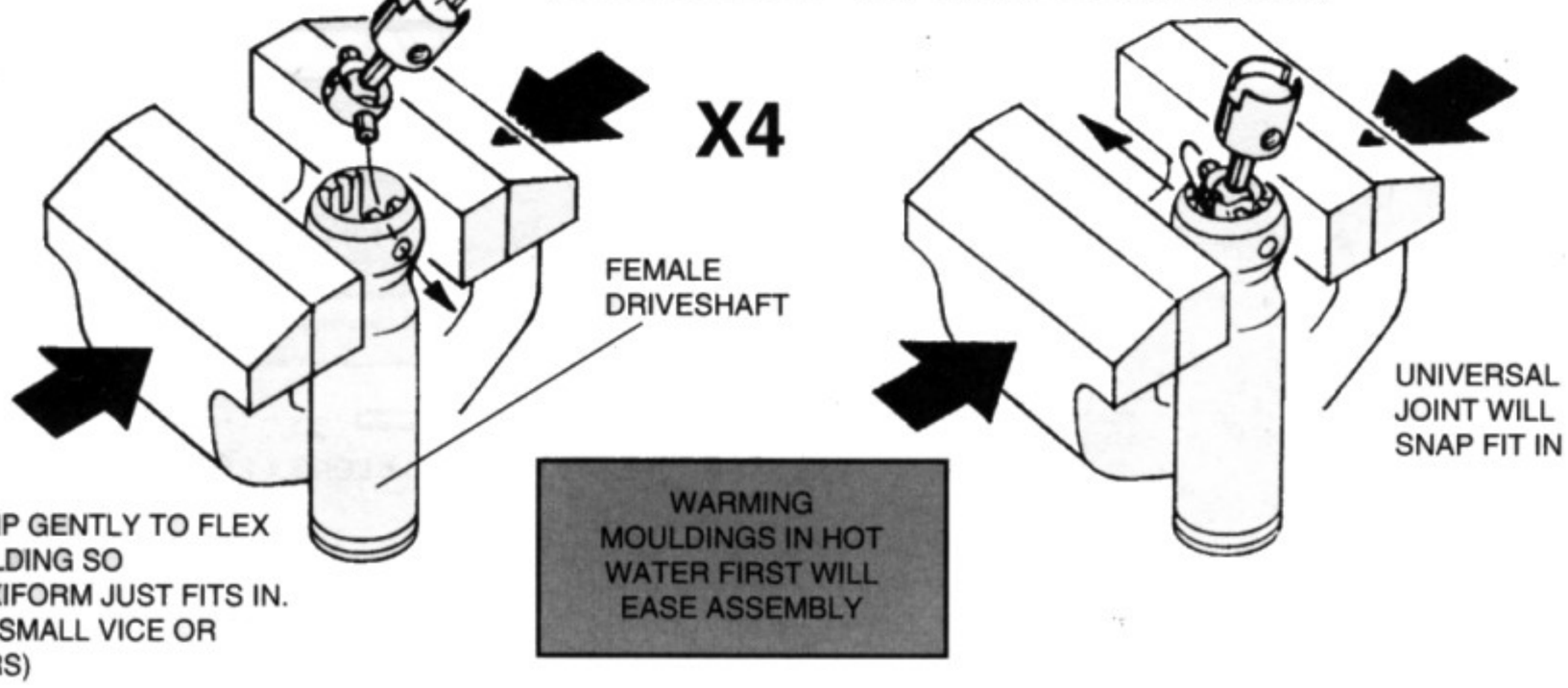
1 CO-AXIAL DRIVESHAFTS

ASSEMBLE ONE DRIVESHAFT AT A TIME

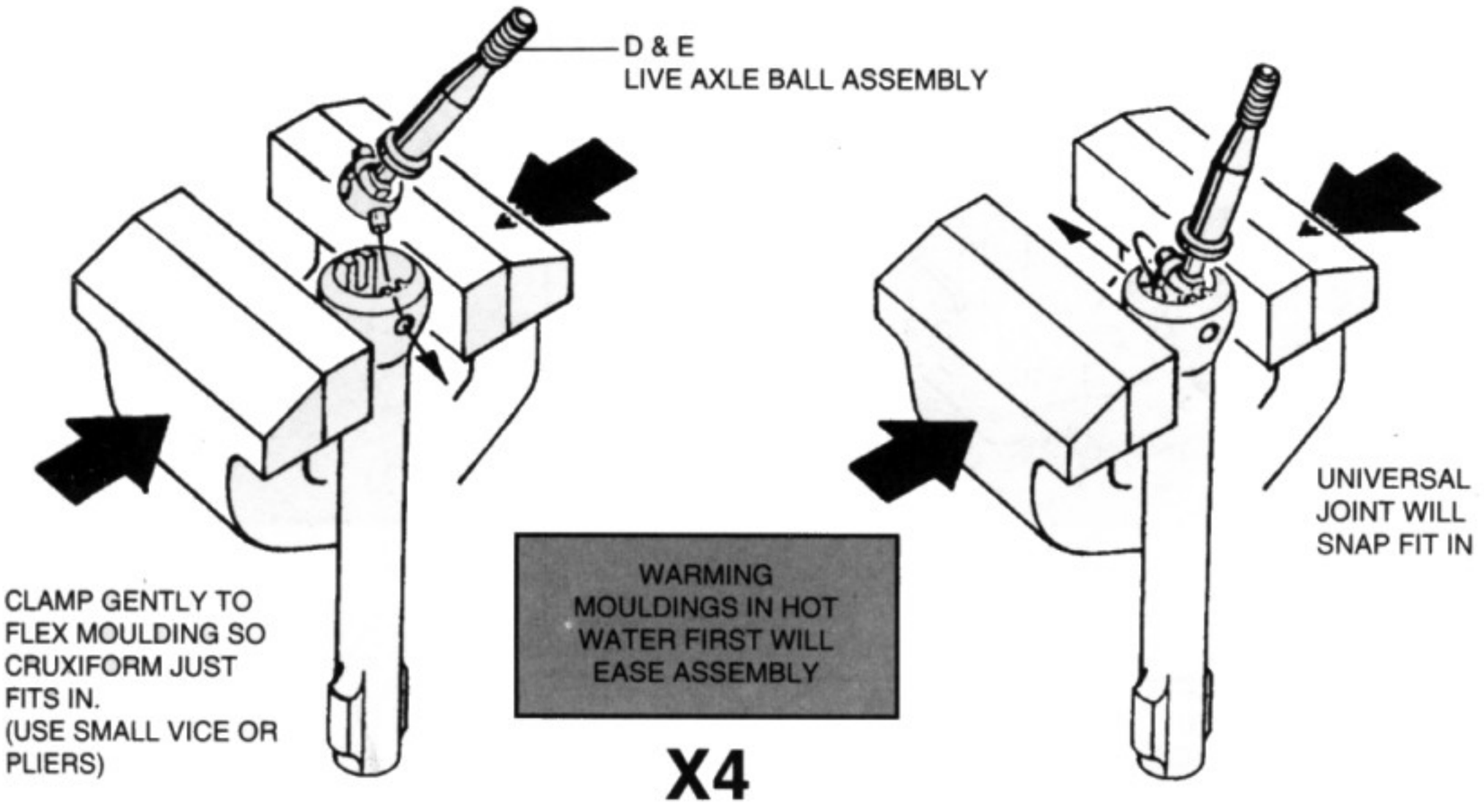
X4



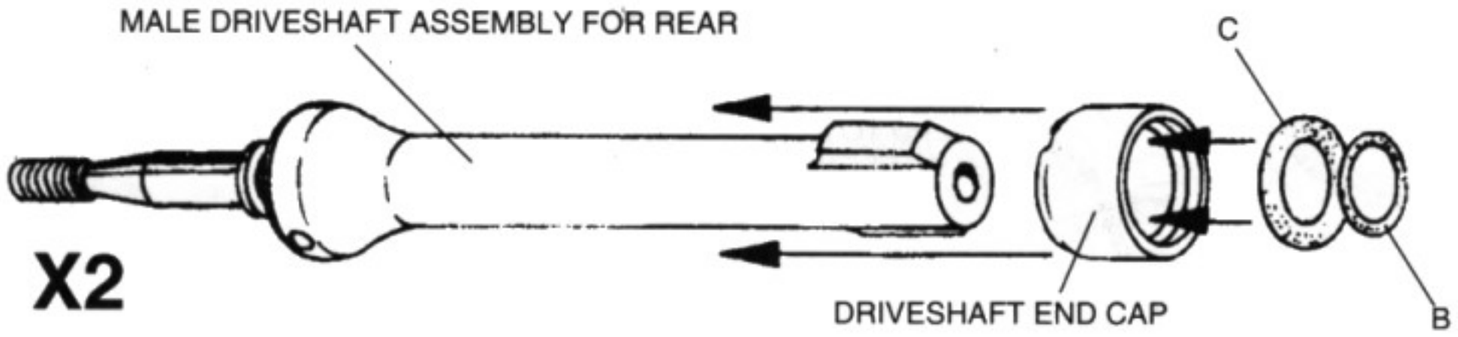
2



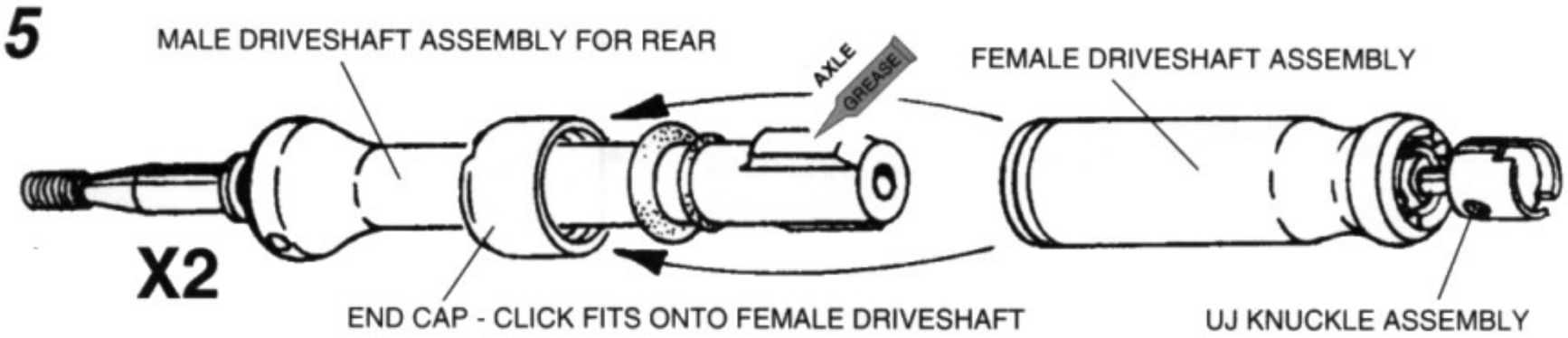
3



4



5



HARDWARE

A X8
DRIVESHAFT WIRE

B X2
THIN DRIVESHAFT 'O' RING - BLACK

C X2
FAT DRIVESHAFT 'O' RING - BLACK

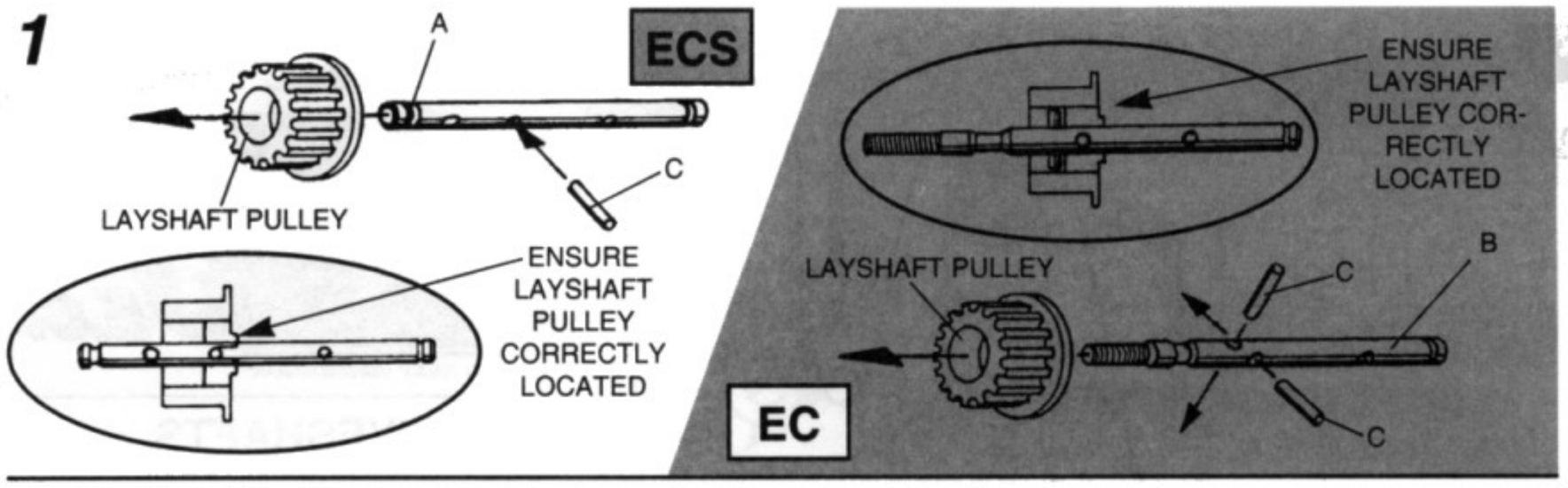
D X2
FRONT LIVE AXLE BALL ASSEMBLY

E X2
FRONT LIVE AXLE BALL ASSEMBLY

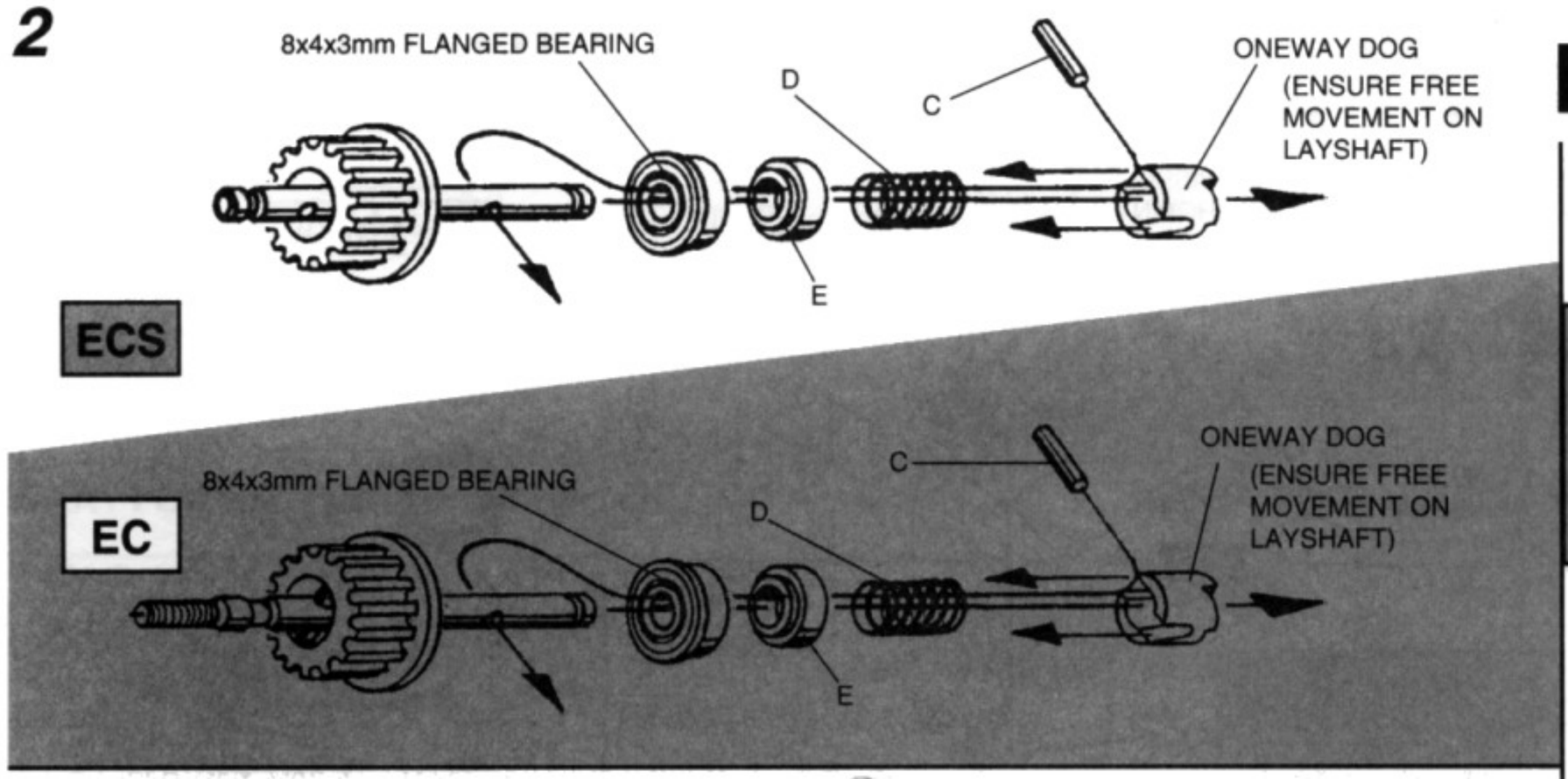
F X4
UJ KNUCKLE ASSEMBLY

NOTE:
THE TWO FRONT DRIVESHAFTS HAVE TO BE ASSEMBLED LATER DURING CONSTRUCTION OF THE FRONT SUSPENSION

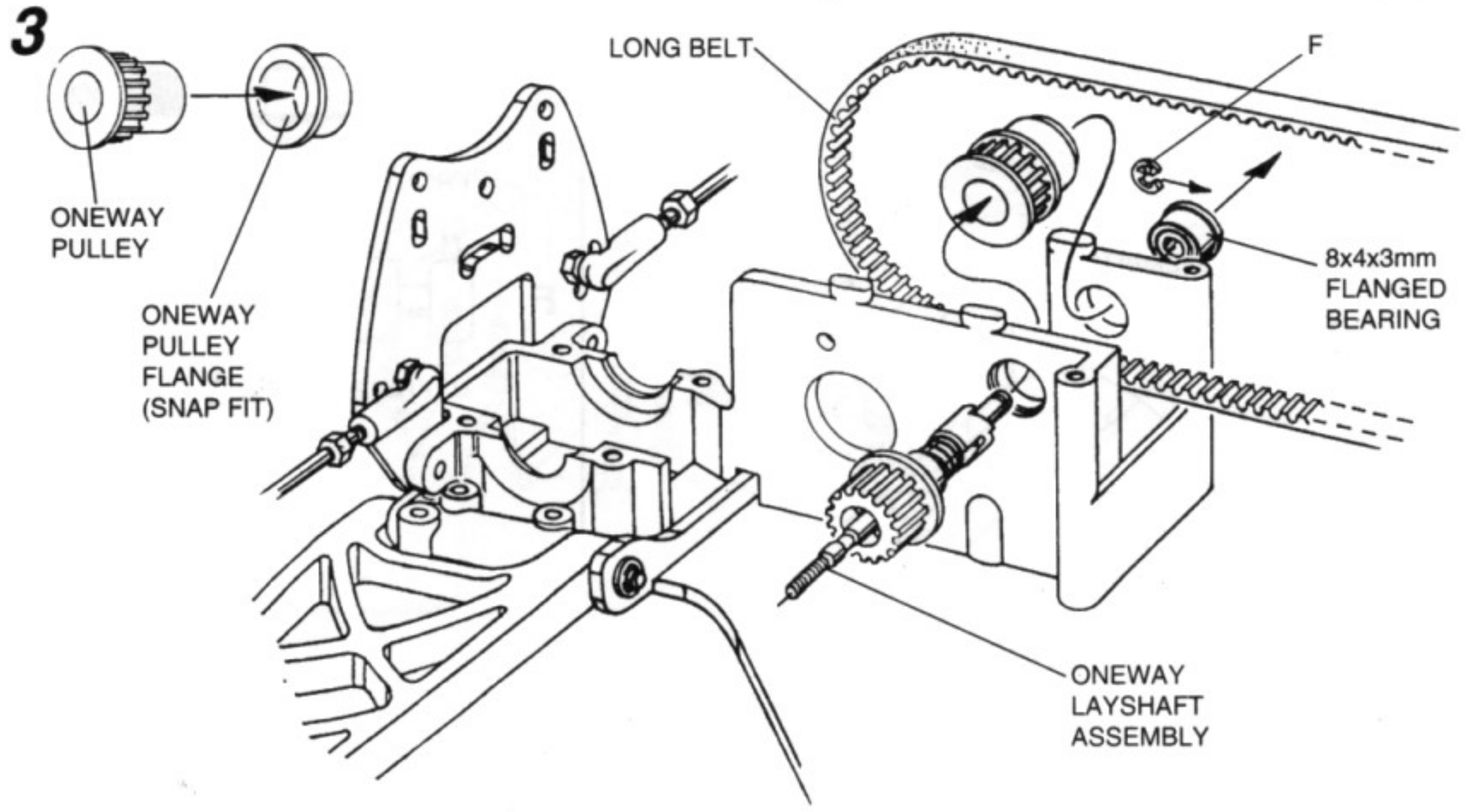
1



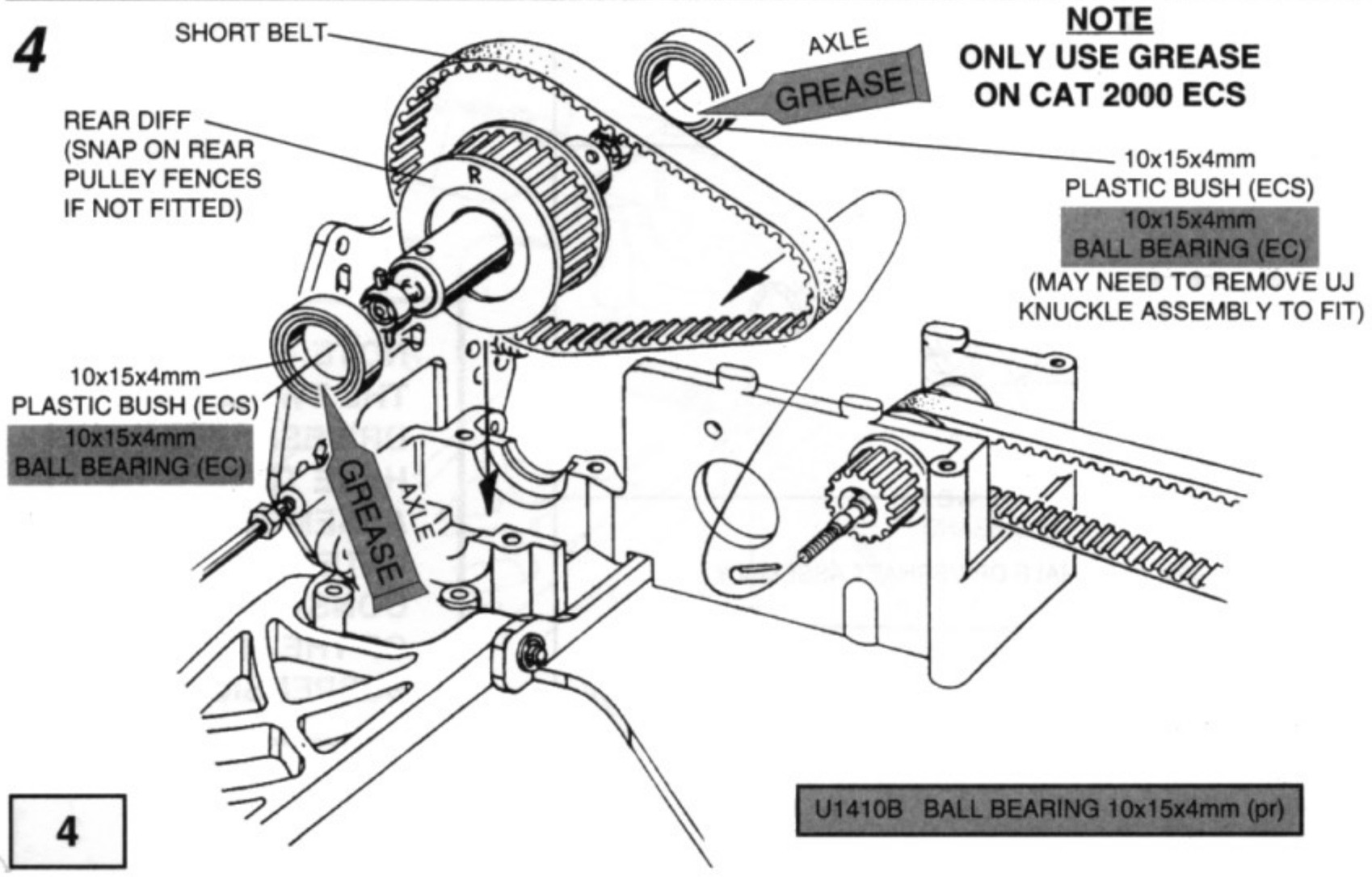
2



3



4



NOTE
ONLY USE GREASE ON CAT 2000 ECS

U1410B BALL BEARING 10x15x4mm (pr)

4

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NEW CAT 2000 E.C.

THE NEXT GENERATION

TRANSMISSION

BAG 3

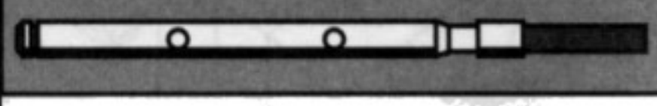
HARDWARE

A NON SLIPPER LAYSHAFT 4WD X1



EC

B SLIPPER LAYSHAFT 4WD X1



C X1
8mm LONG x 1.5mm DIA PIN

D X1
LAYSHAFT ONEWAY SPRING

E X1
LAYSHAFT SPACER

F X1
'E' CLIP

Schumacher

NEW CAT 2000 E.C.

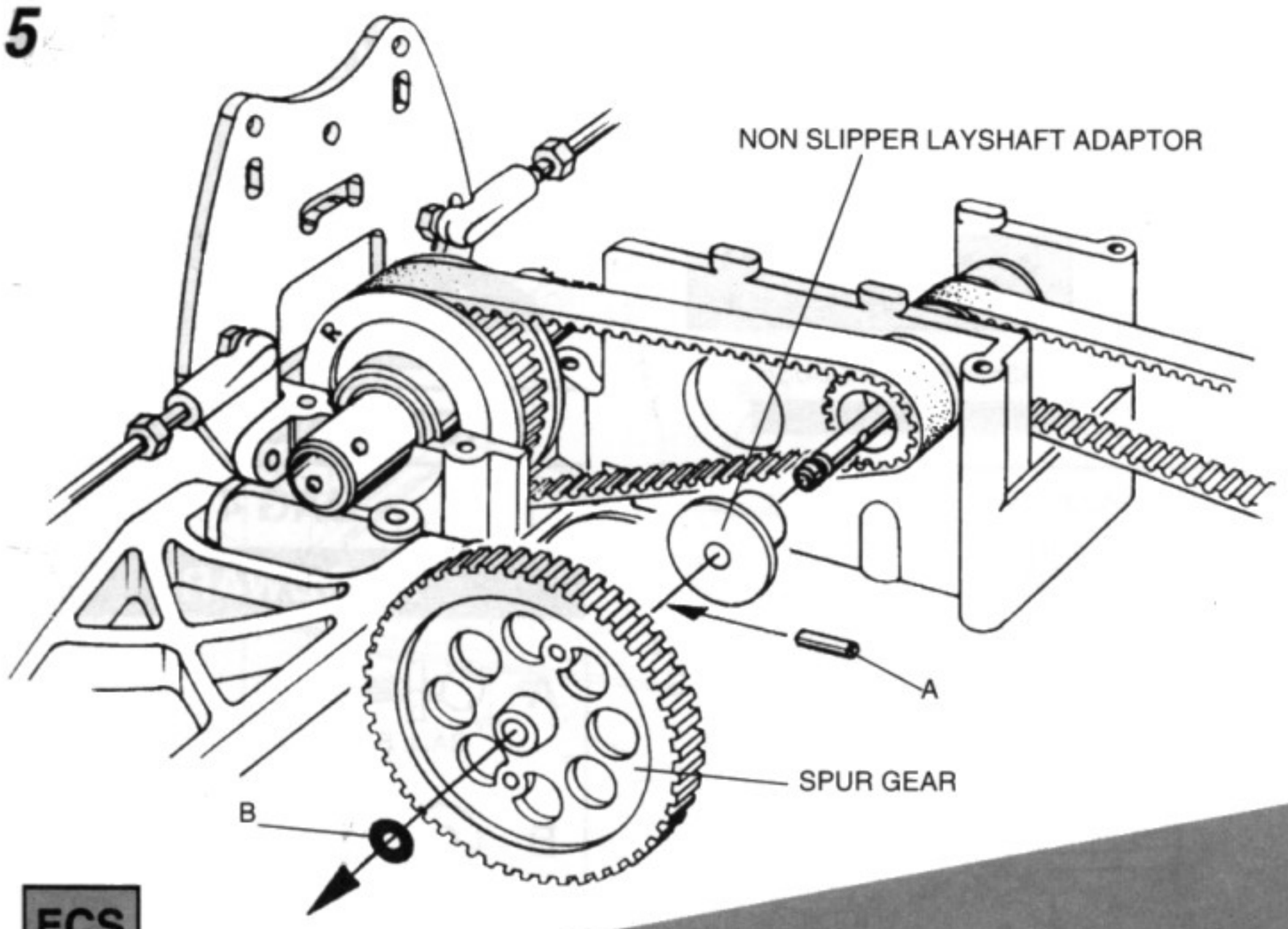
THE NEXT GENERATION

TRANSMISSION

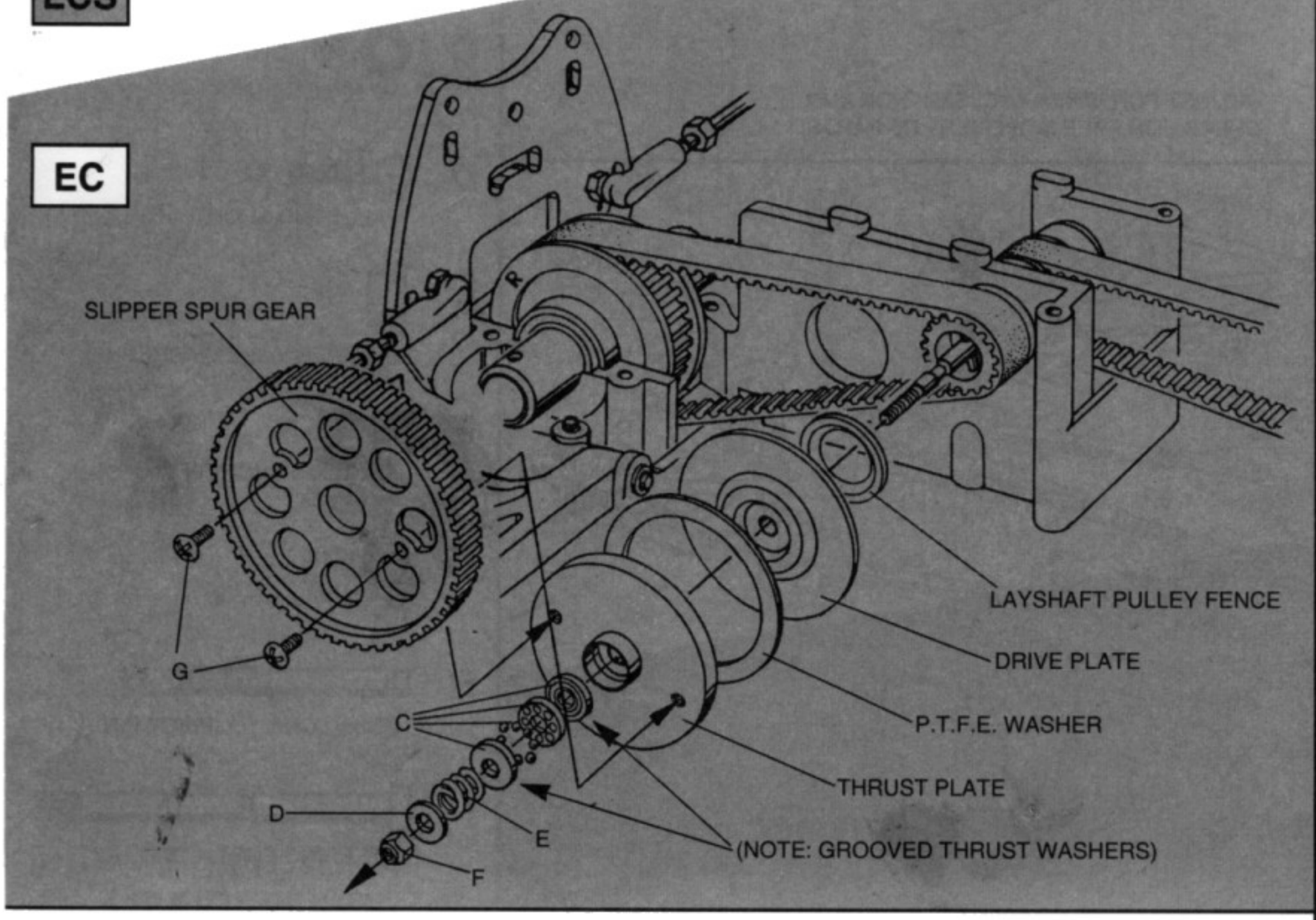
BAG 3

HARDWARE

5



ECS



ECS

A X1
PIN 8mm LONG x 2.0mm DIA

B X1
'O' RING

EC

C X2
X8
X1
THRUST RACE ASSEMBLY

D X1
M3 STEEL WASHER

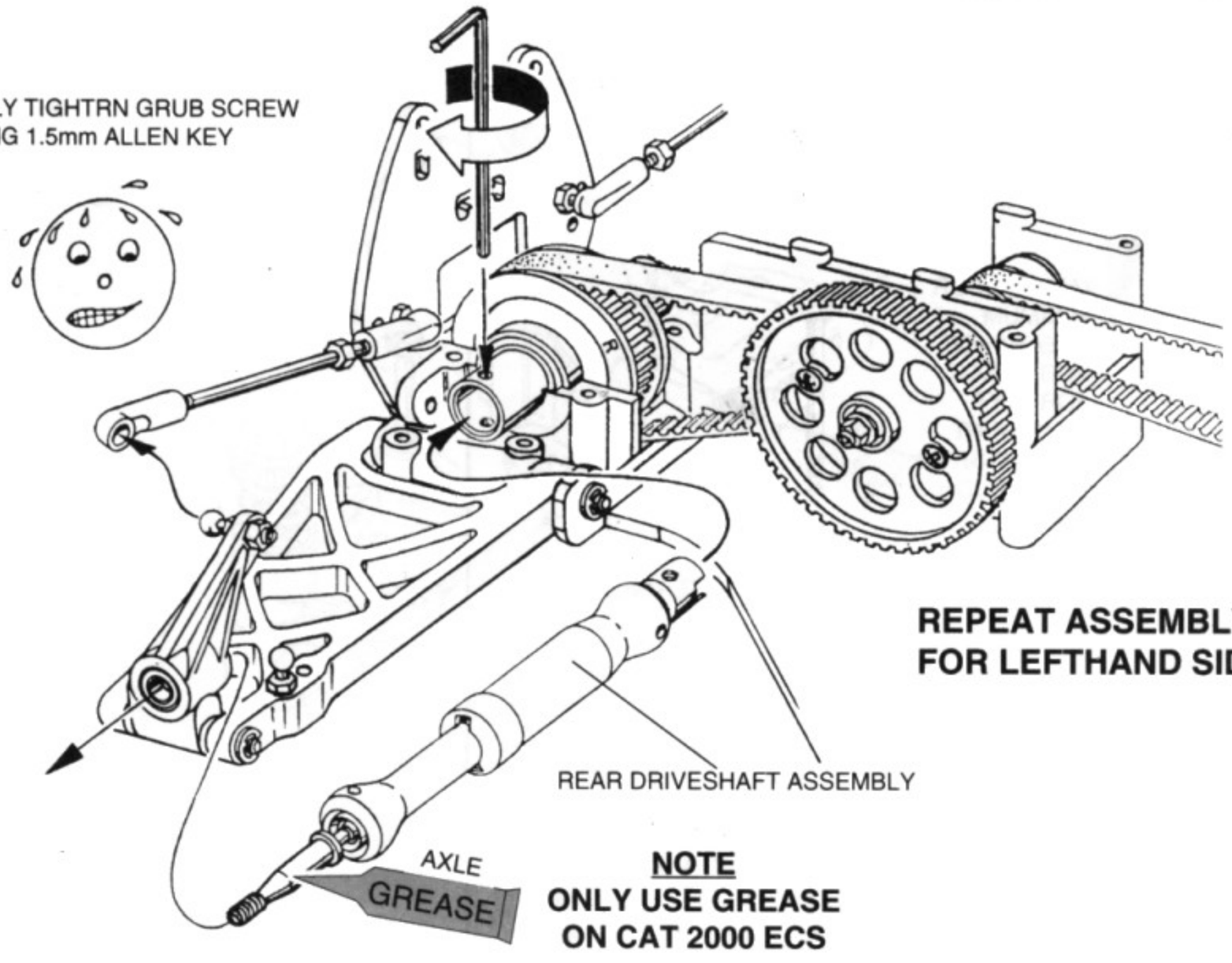
E X1
SLIPPER CLUTCH SPRING

F X1
M3 NYLOC NUT

G X2
M3 x 4mm PANHEAD SCREW

6

FULLY TIGHTRN GRUB SCREW
USING 1.5mm ALLEN KEY

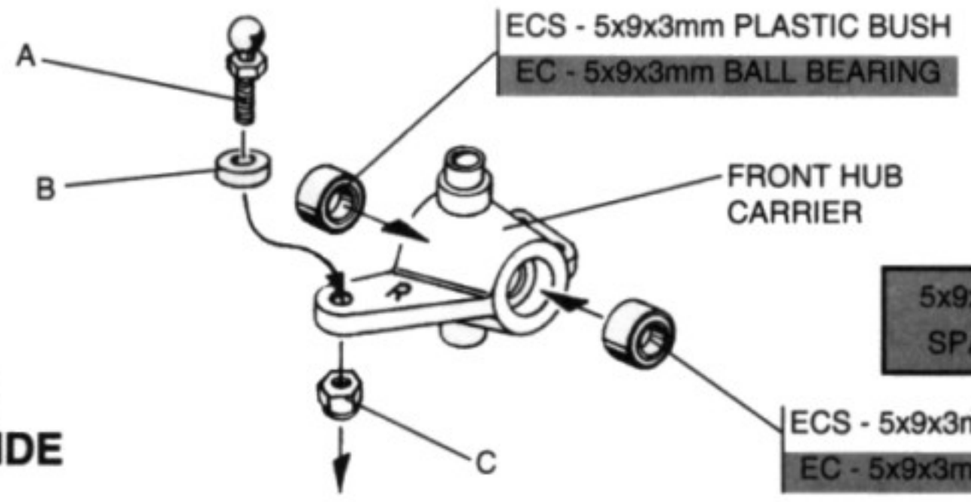


REPEAT ASSEMBLY FOR LEFTHAND SIDE

NOTE
ONLY USE GREASE ON CAT 2000 ECS

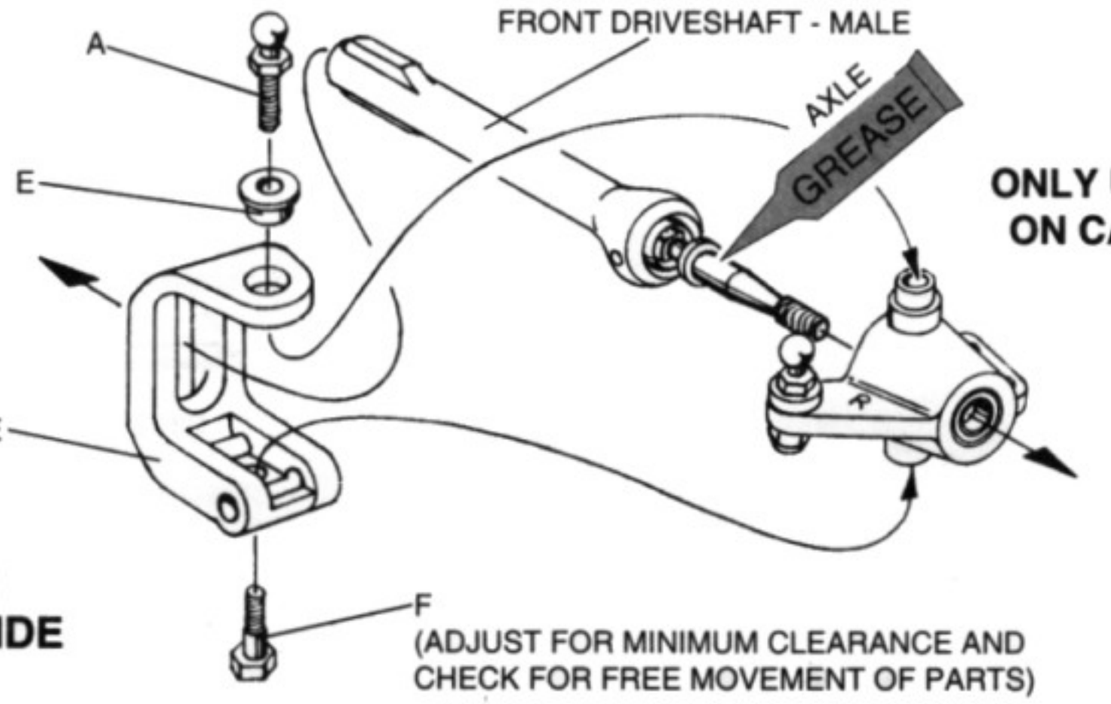
NOTE:
THE TWO FRONT DRIVESHAFTS HAVE TO BE ASSEMBLED LATER DURING CONSTRUCTION OF THE FRONT SUSPENSION

1



REPEAT FOR LEFTHAND SIDE

2

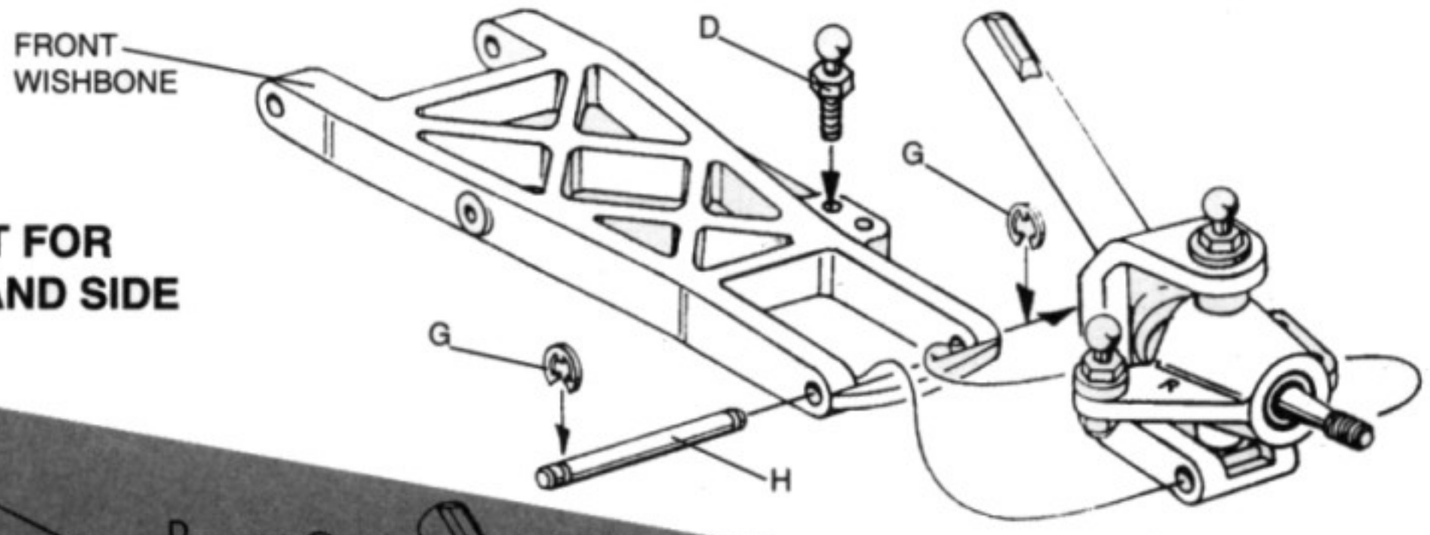


NOTE
ONLY USE GREASE ON CAT 2000 ECS

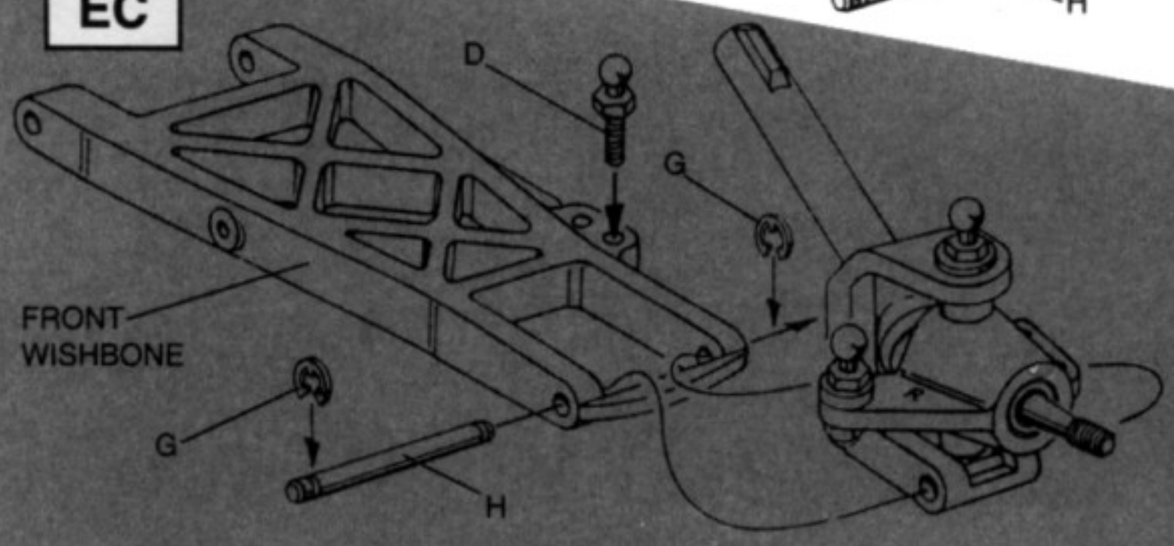
REPEAT FOR LEFTHAND SIDE

3

ECS

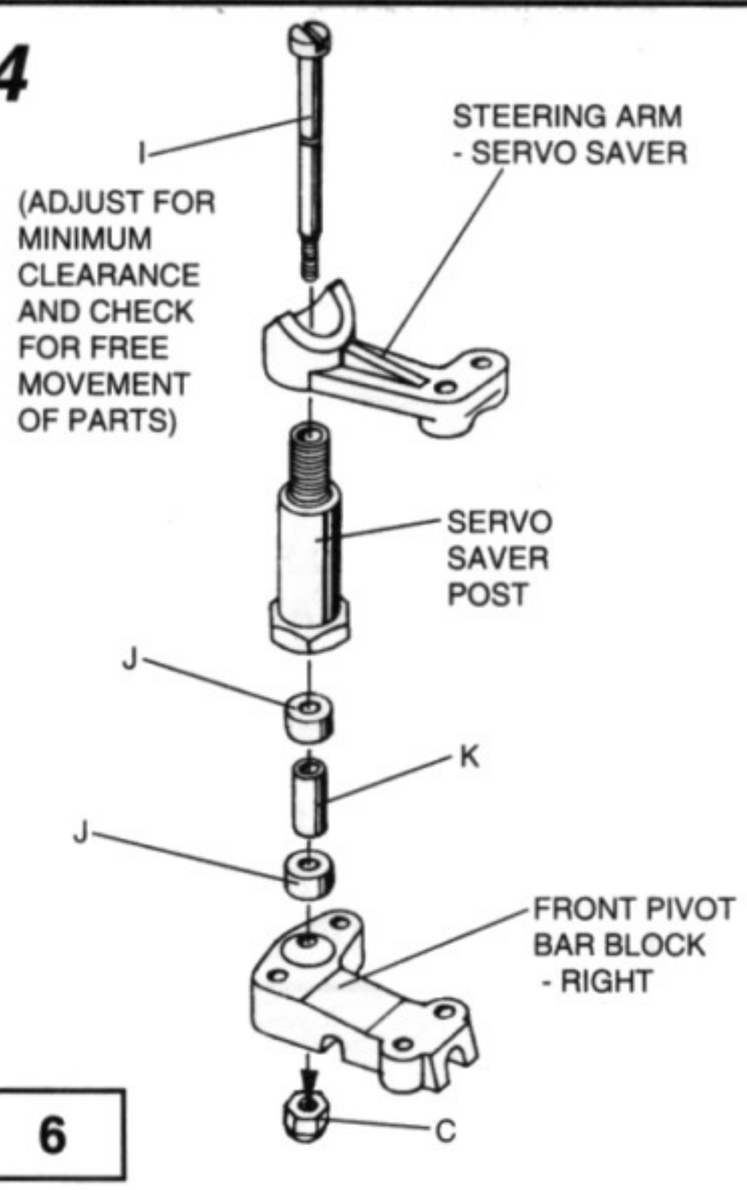


EC

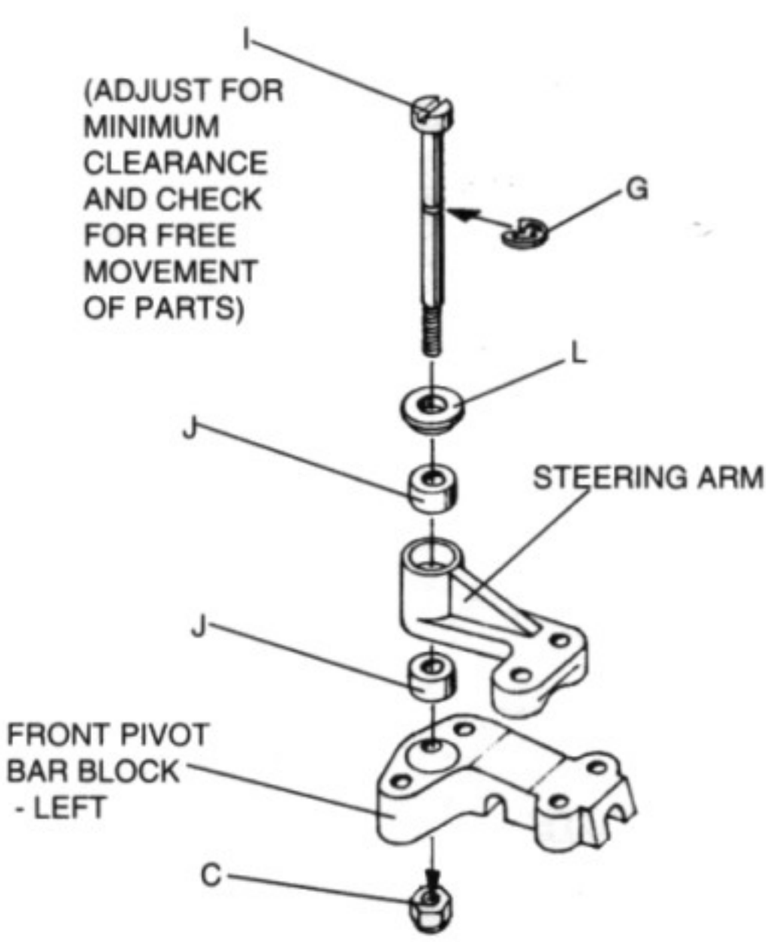


REPEAT FOR LEFTHAND SIDE

4



5



6

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NEW CAT 2000 E.C.

THE NEXT GENERATION

FRONT SUSPENSION

BAG 4

HARDWARE

A X4
BALL STUD LONG

B X2
1.6mm THICK NYLON WASHER

C X4
M3 NYLOC NUT

D X2
BALL STUD SHORT

E X2
STEPPED YOKE WASHER

F X2
SHOULDER SCREW

G X5
'E' CLIP

H X2
28mm LONG 1/8" PIVOT PIN

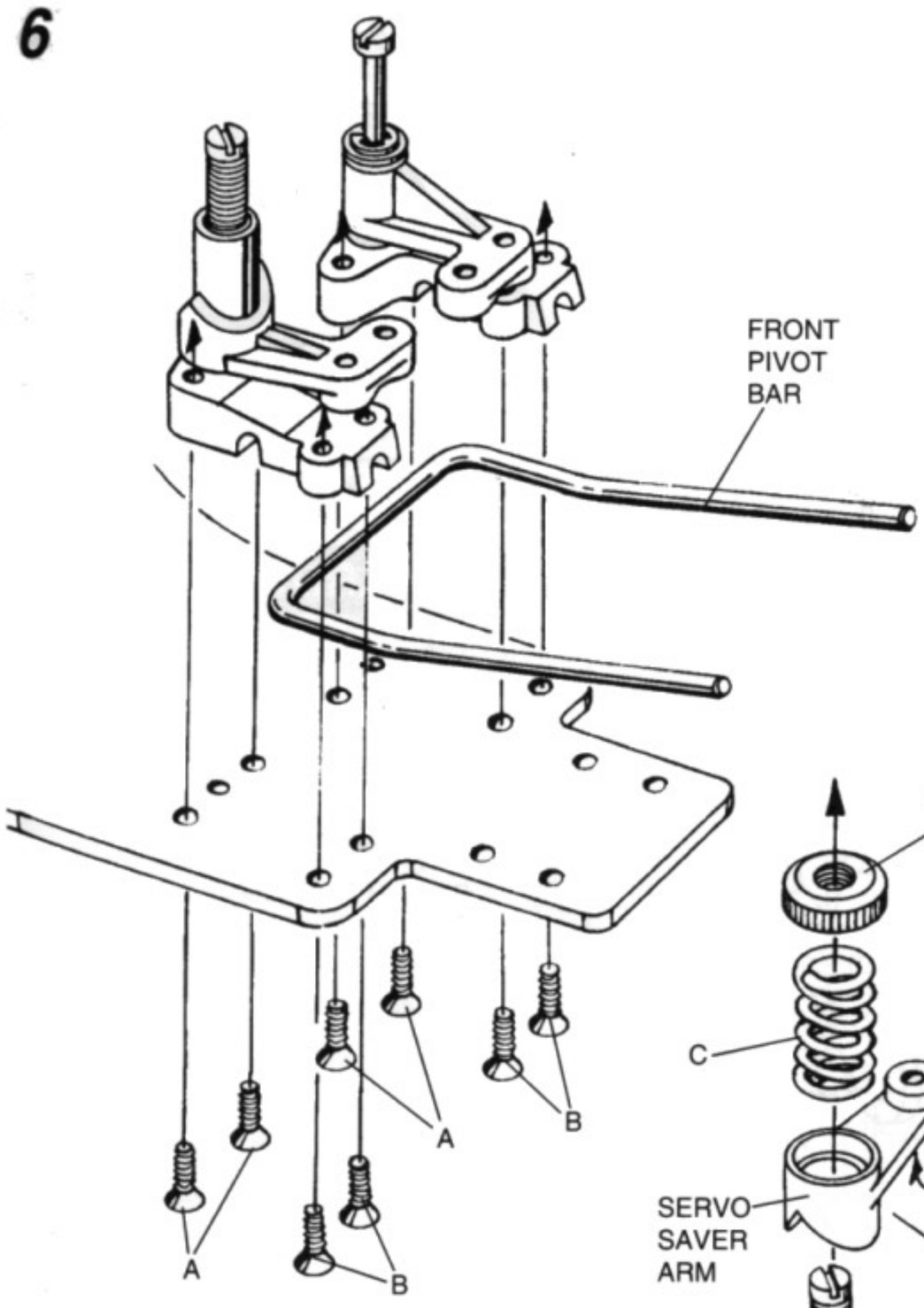
I X2
STEERING POST LONG

J X4
STEERING LEVER BUSH

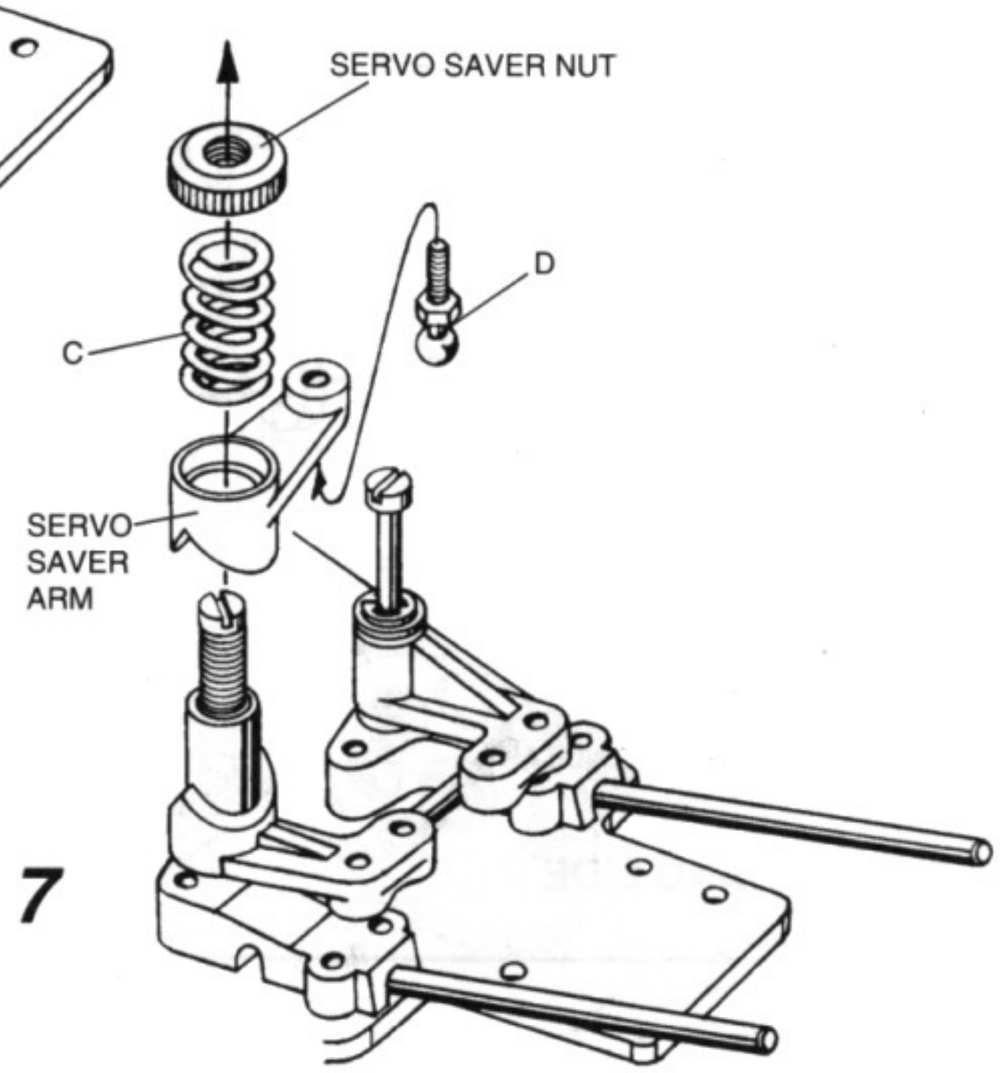
K X1
SPACER TUBE

L X1
STEPPED WASHER

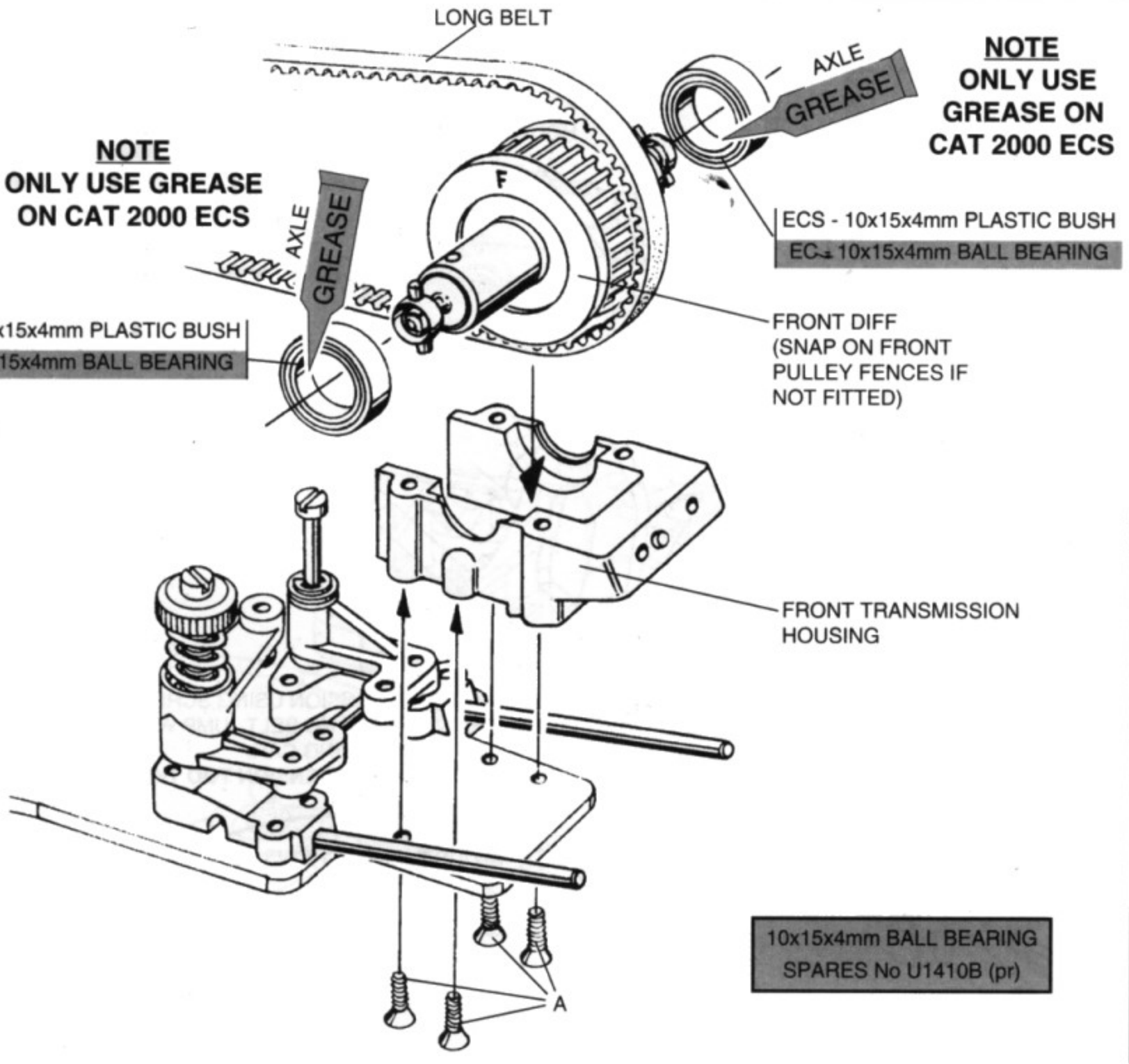
6



7



8



10x15x4mm BALL BEARING
SPARES No U1410B (pr)

Schumacher

NEW CAT 2000 E.C.

THE NEXT GENERATION

FRONT SUSPENSION

BAG 4 & 5

HARDWARE

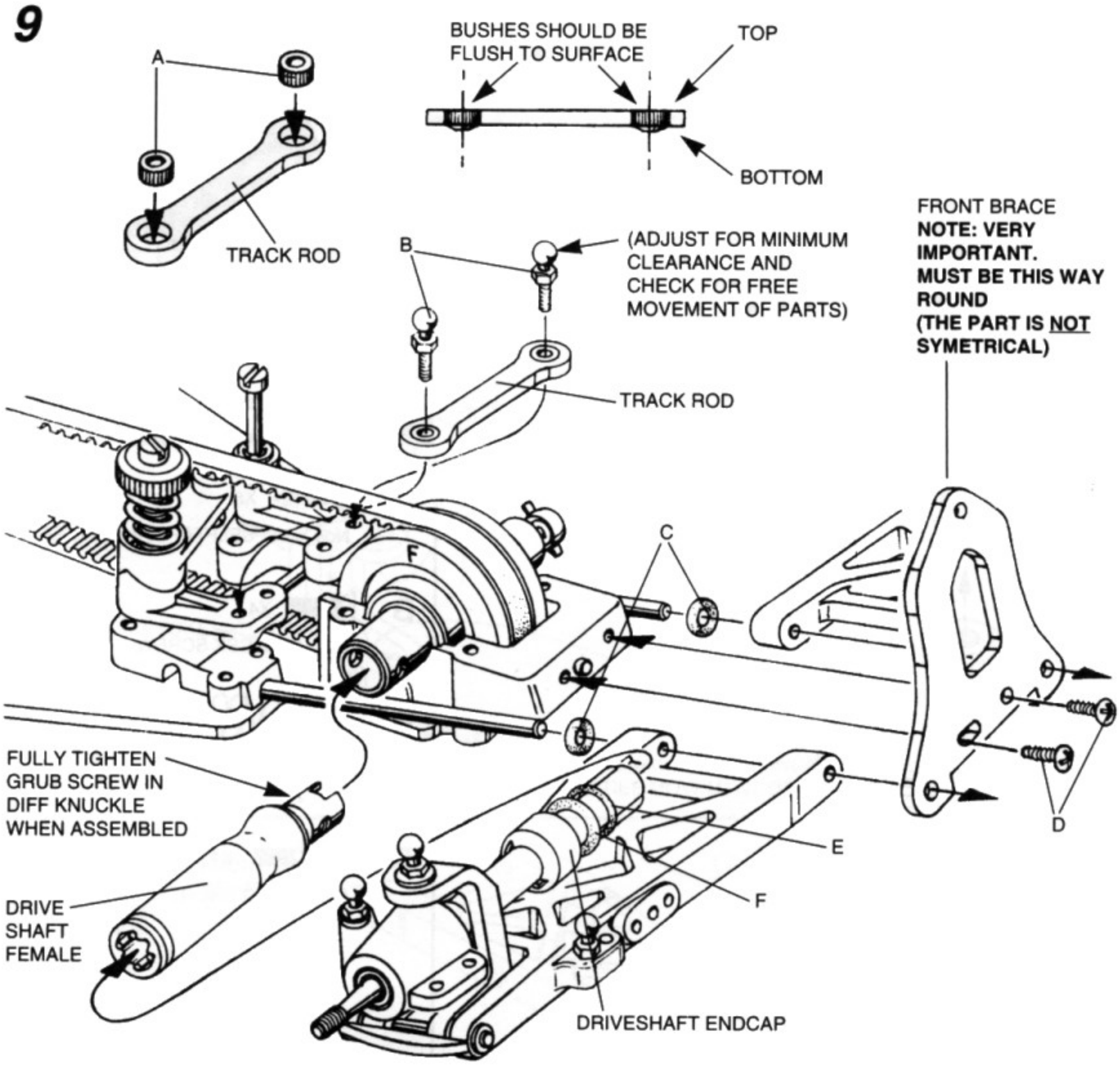
A X8
No4 x 3/8" SELFTAP PANHEAD SCREW

B X4
M3 x 8mm CSK SCREW

C X1
SERVO SAVER SPRING

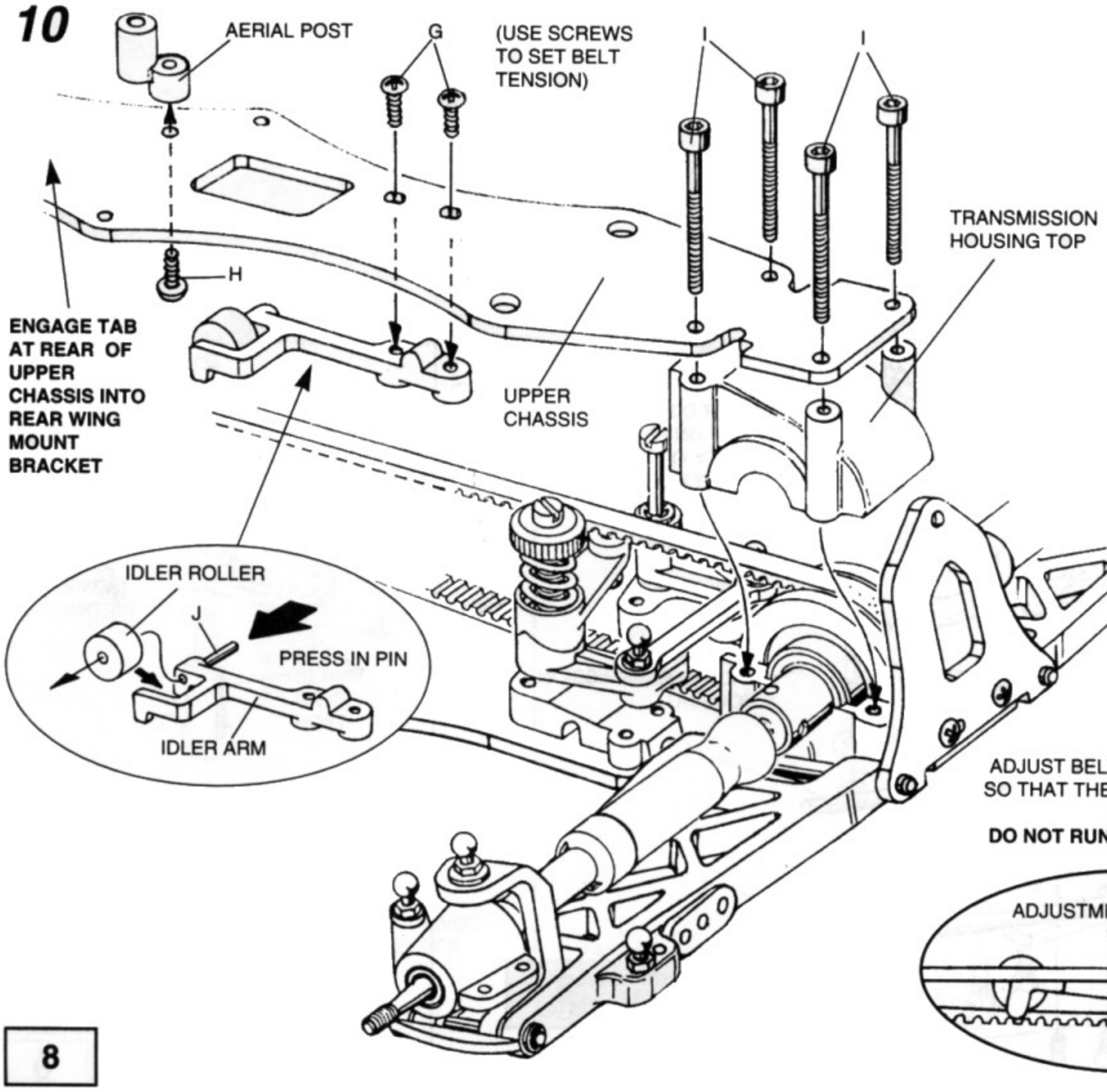
D X1
BALL STUD SHORT

9



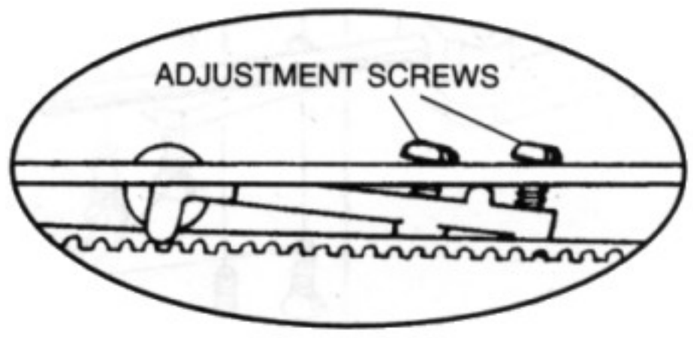
REPEAT DRIVESHAFT ASSEMBLY FOR LEFTHAND SIDE

10



FRONT BRACE
NOTE: VERY IMPORTANT. MUST BE THIS WAY ROUND (THE PART IS NOT SYMETRICAL)

ADJUST BELT TENSION USING SCREWS SO THAT THERE IS NO BELT JUMP WHEN RUNNING CAR.
DO NOT RUN WITH TENSION TOO TIGHT



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NEW CAT 2000 E.C.
THE NEXT GENERATION

FRONT SUSPENSION

BAG 5

HARDWARE

A X2
CENTRE TRACKROD BUSH

B X2
BALL STUD LONG

C X2
SMALL FAT 'O'RING - RED

D X2
No4 x 1/4" SELFTAP PANHEAD SCREW

E X2
THIN DRIVESHAFT 'O'RING - BLACK

F X2
FAT DRIVESHAFT 'O'RING - BLACK

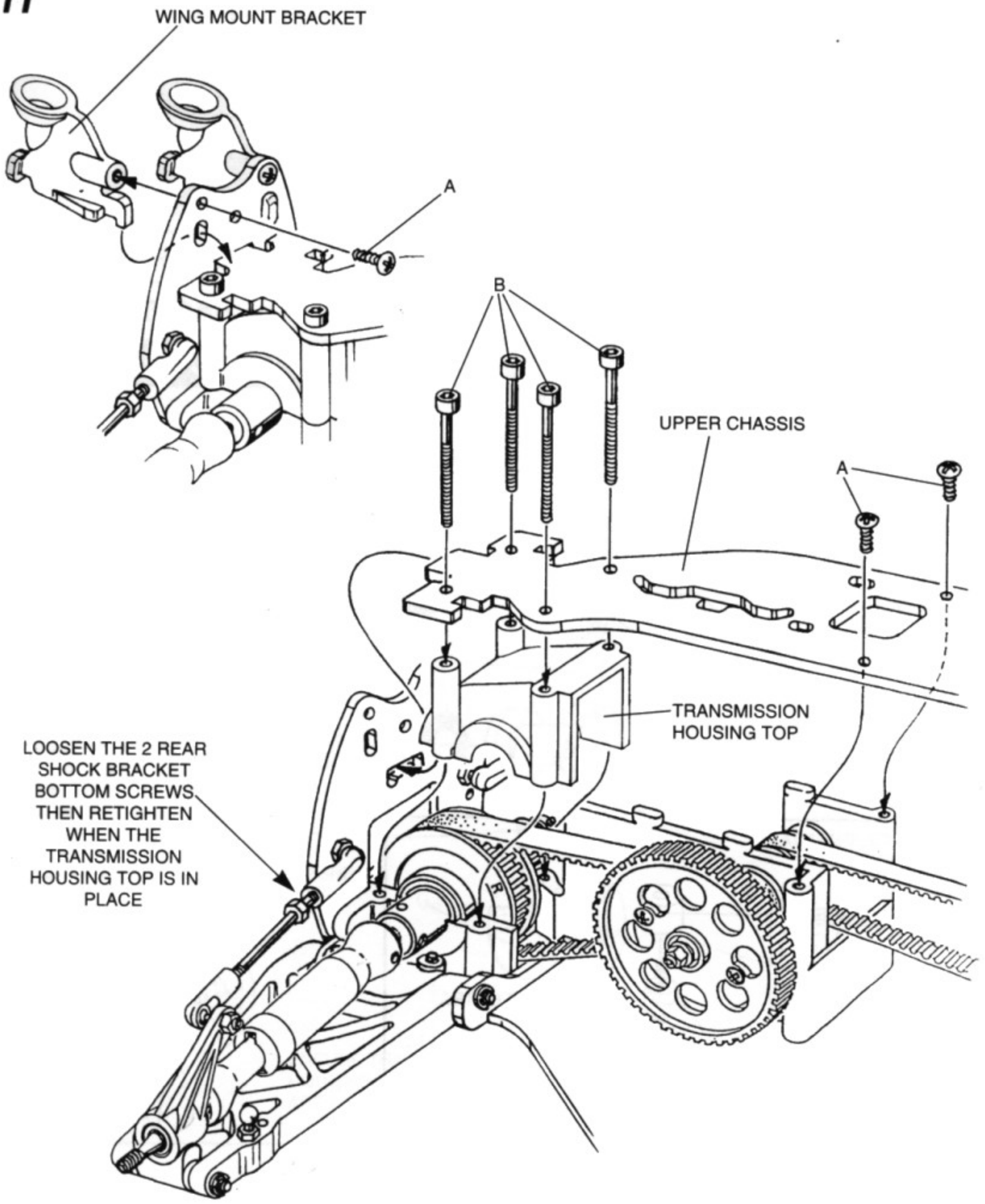
G X2
No4 x 1/2" SELFTAP PANHEAD SCREW

H X1
No4 x 3/8" SELFTAP PANHEAD SCREW

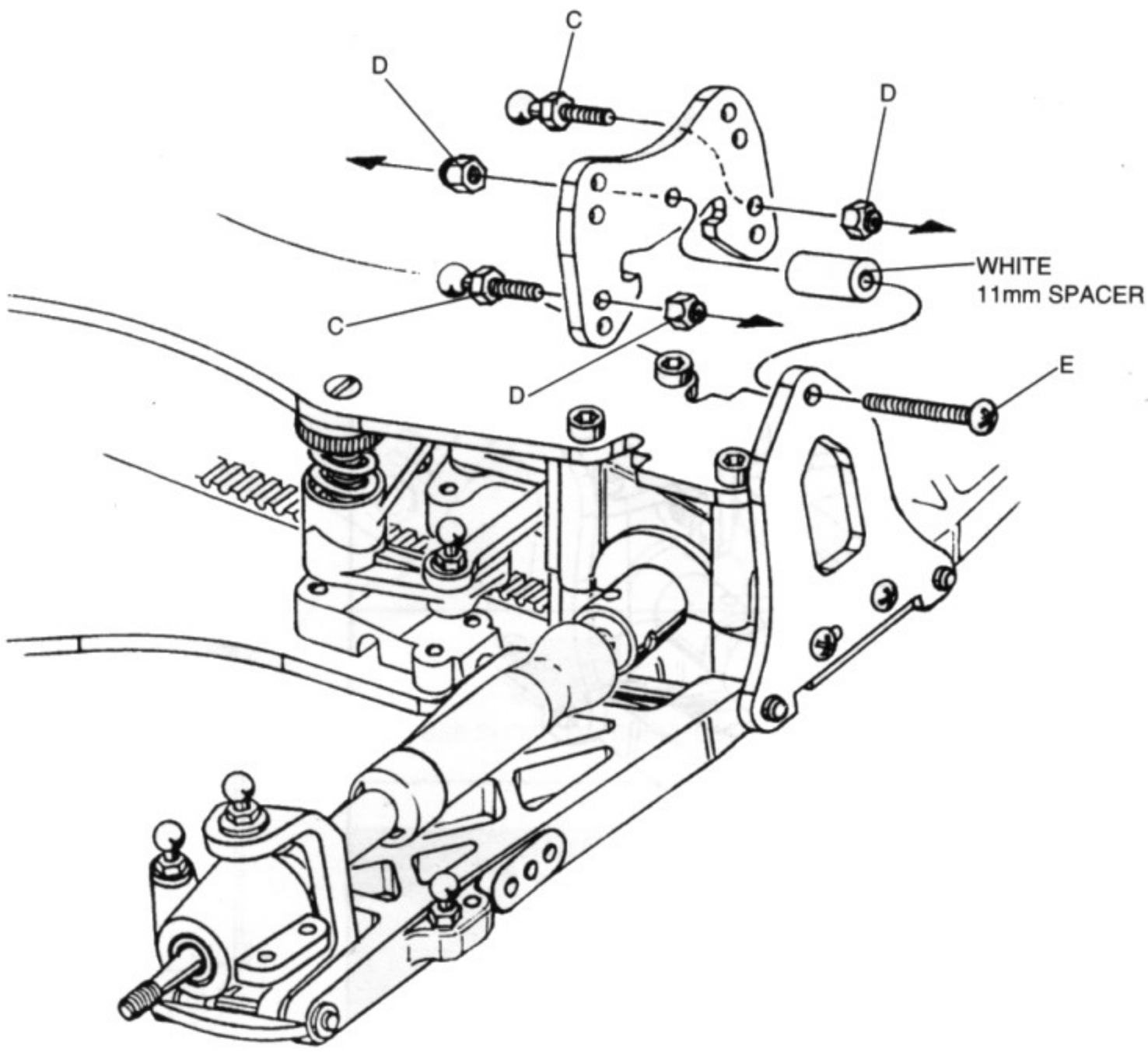
I X4
M3 x 30mm CAPHEAD SCREW

J X1
13mm LONG x 1.5mm DIA PIN

11



12



Schumacher

NEW CAT 2000 E.C.

THE NEXT GENERATION

FRONT SUSPENSION

BAG 5

HARDWARE

A X4
No4 x 3/8" SELFTAP PANHEAD SCREW

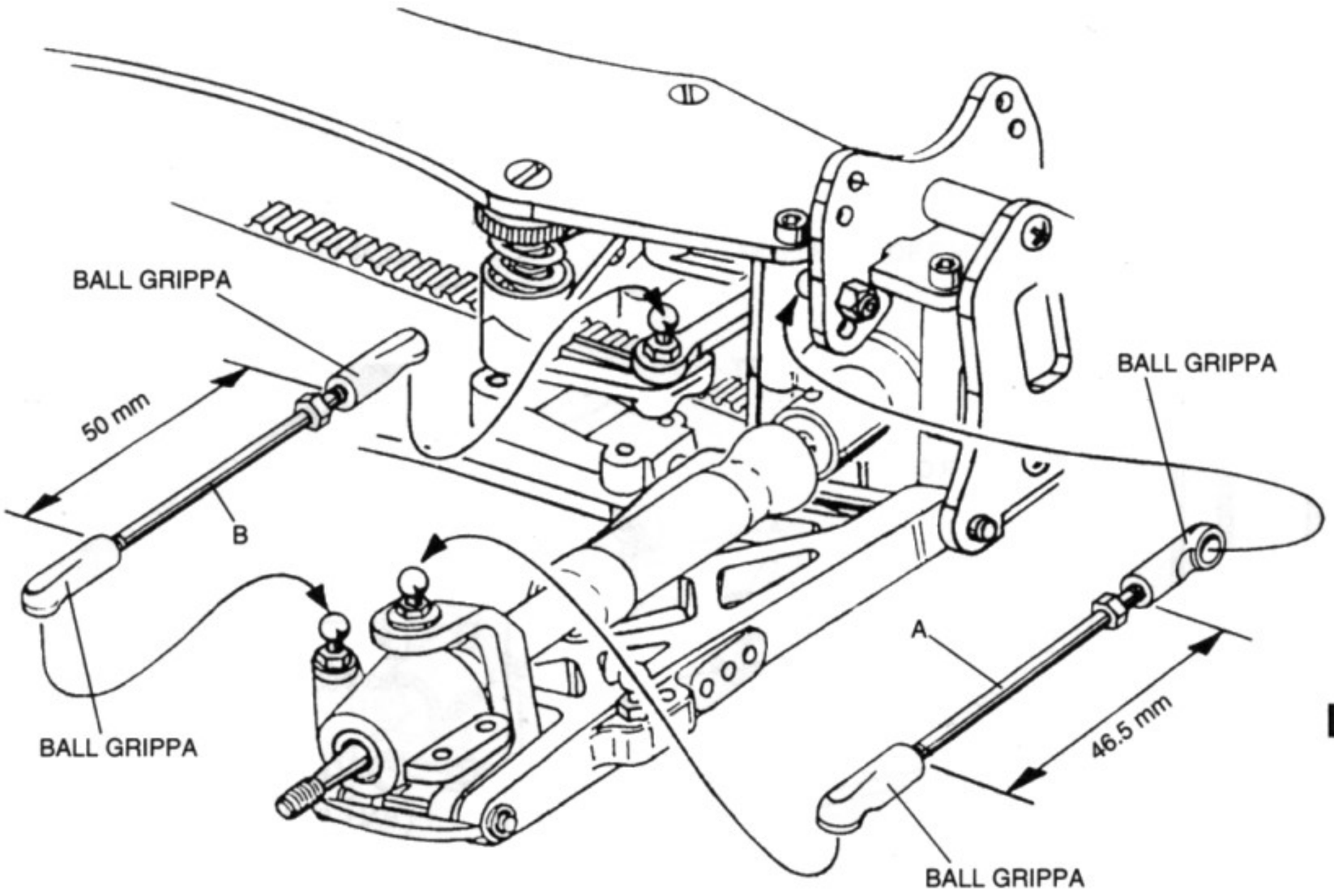
B X4
M3 x 30mm CAPHEAD SCREW

C X2
BALL STUD SHORT

D X3
M3 NYLOC NUT

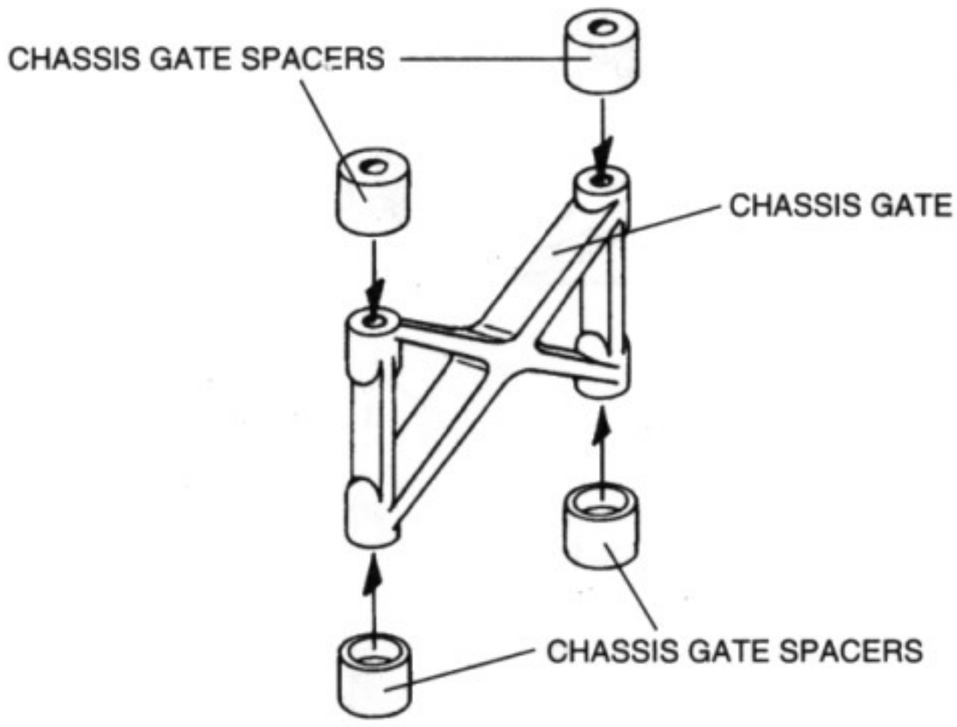
E X1
M3 x 20mm PANHEAD SCREW

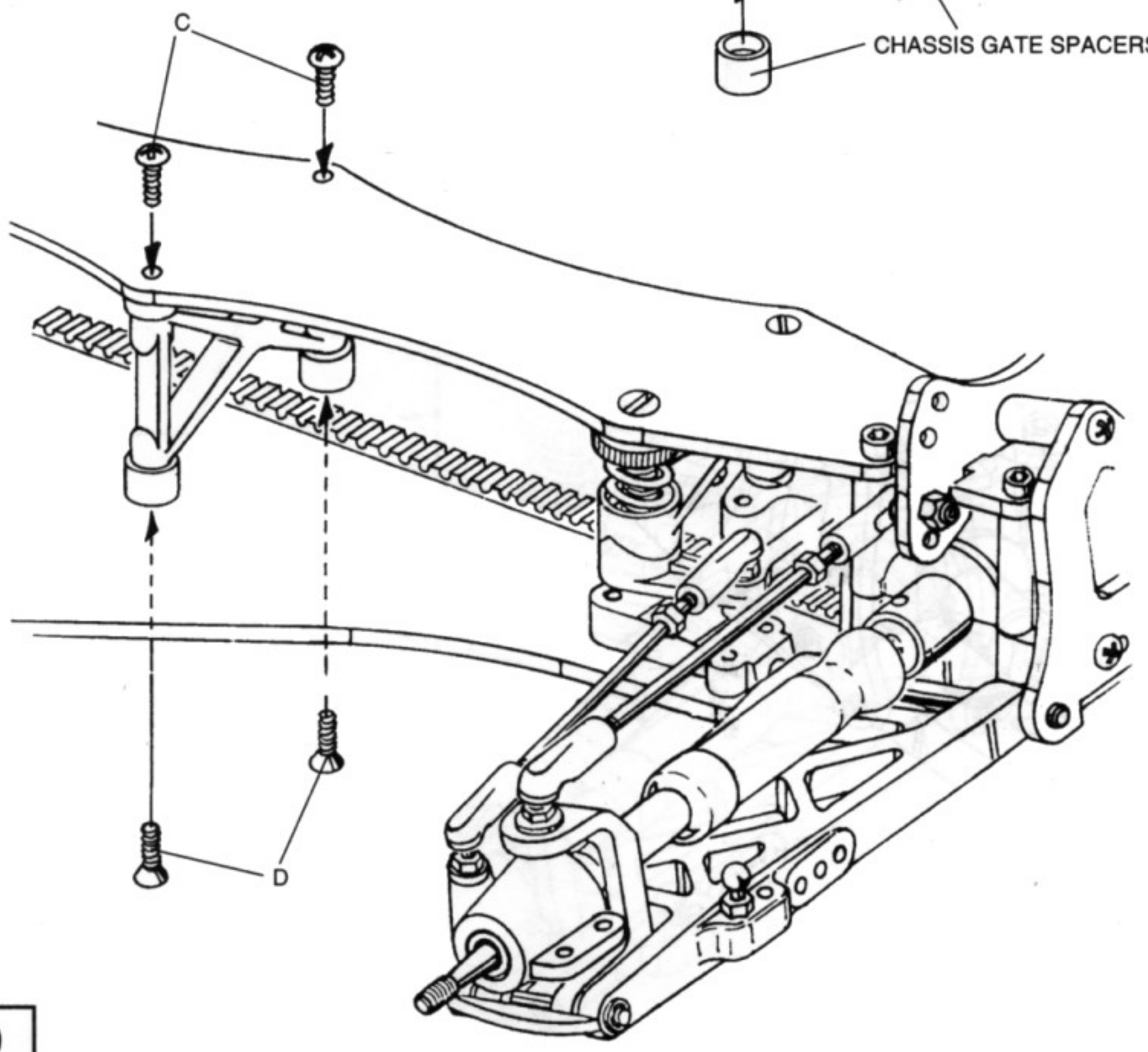
13



REPEAT FOR LEFTHAND SIDE

14





10

Schumacher

NEW CAT 2000 E.C.

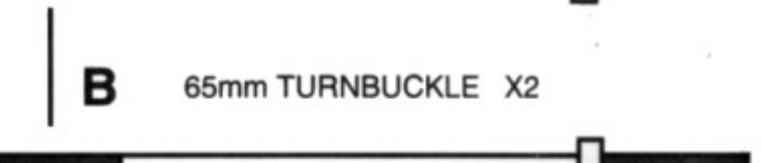
THE NEXT GENERATION

FRONT SUSPENSION

BAG 5

HARDWARE

A 60mm TURNBUCKLE X2



B 65mm TURNBUCKLE X2



C  X2

No4 x 1/2" SELFTAP PANHEAD SCREW

D  X2

No4 x 1/2" SELFTAP CSK SCREW

Schumacher

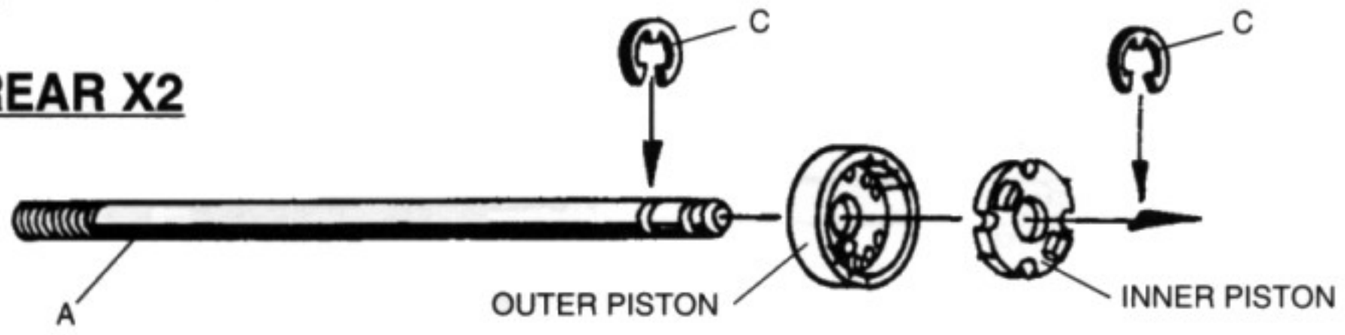
NEW CAT 2000 E.C.

THE NEXT GENERATION

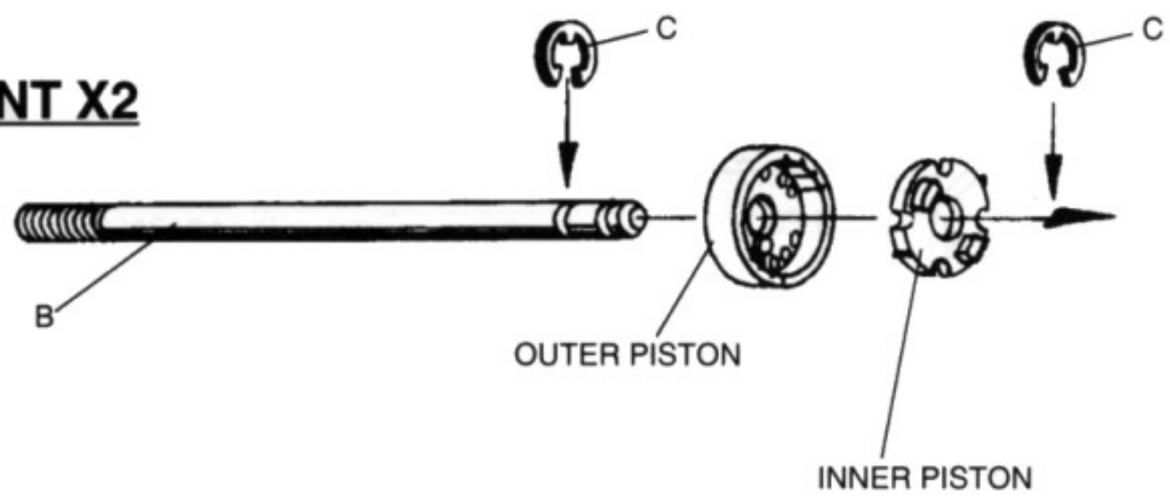
SHOCK ABSORBERS

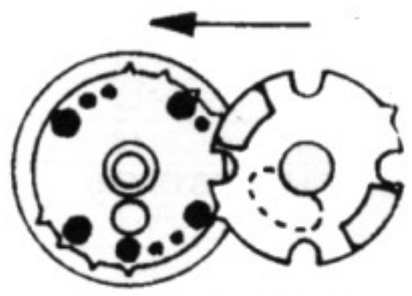
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REAR X2



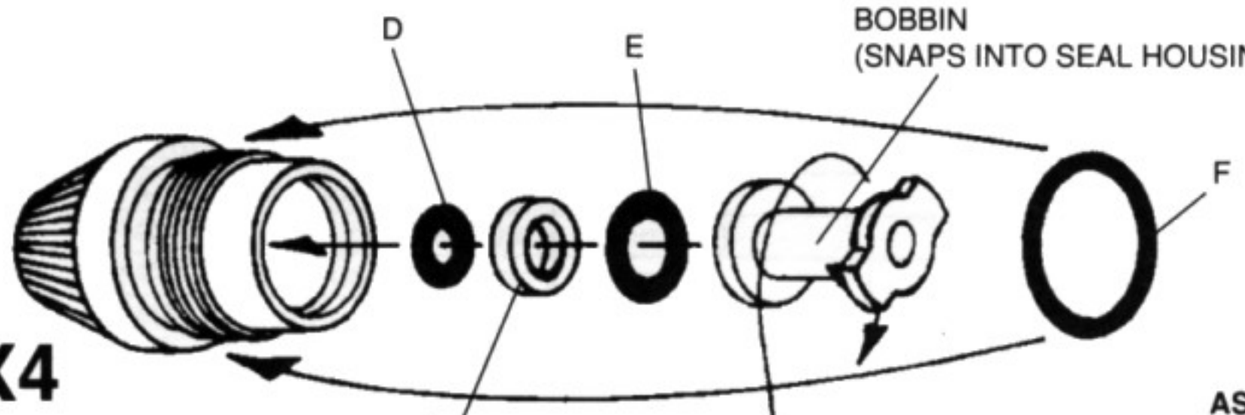
FRONT X2

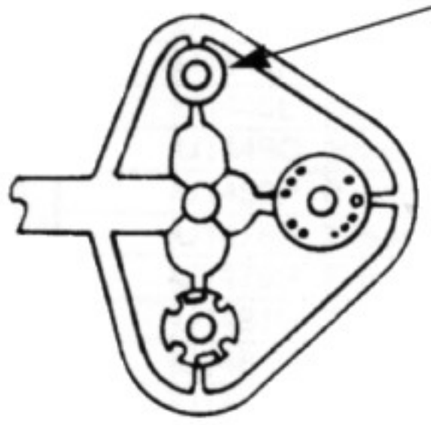




MAKE SURE PISTON CORRECTLY LOCATED

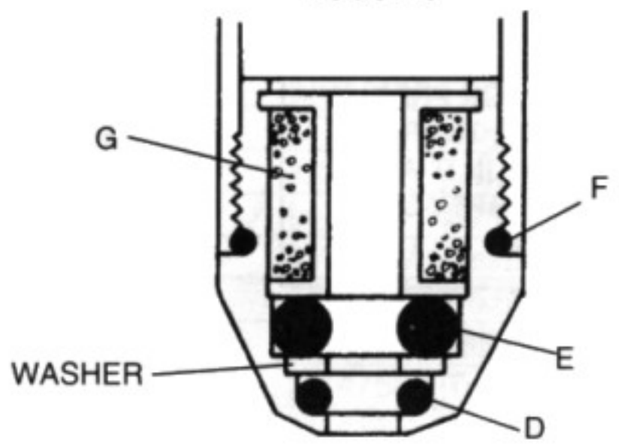
2





ENSURE THAT THE SEAL HOUSING MOULDINGS ARE FREE FROM FLASH

ASSEMBLED SEAL HOUSING



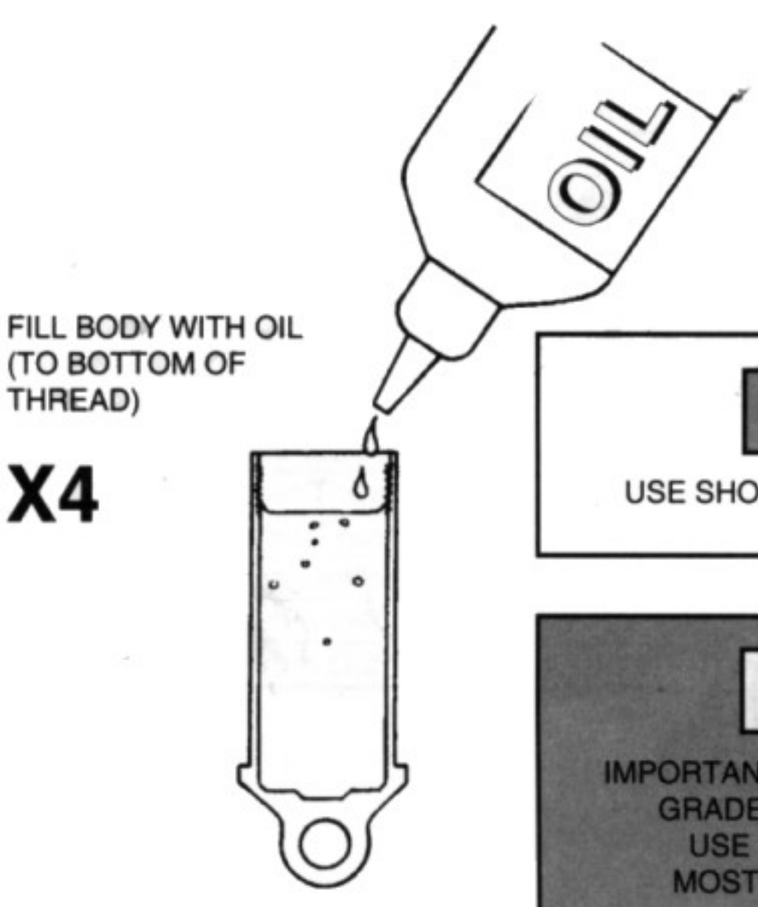
3



CAREFULLY REMOVE THE MOULDED PIP. CHECK FOR FREE PISTON MOVEMENT INSIDE SHOCK BODY.

ENSURE THAT PISTON SLIDES FREELY IN THE THE SEAL HOUSING ASSEMBLY

4



ECS

USE SHOCK OIL SUPPLIED

EC

IMPORTANT: ONLY USE HIGH GRADE SILICONE OIL. USE 35W OIL FOR MOST CONDITIONS.

HARDWARE

A LONG SHOCK ROD X2



B MEDIUM SHOCK ROD X2



C X4 'E' CLIP

D X4 SMALL FAT 'O' RING

E X4 LARGE FAT 'O' RING

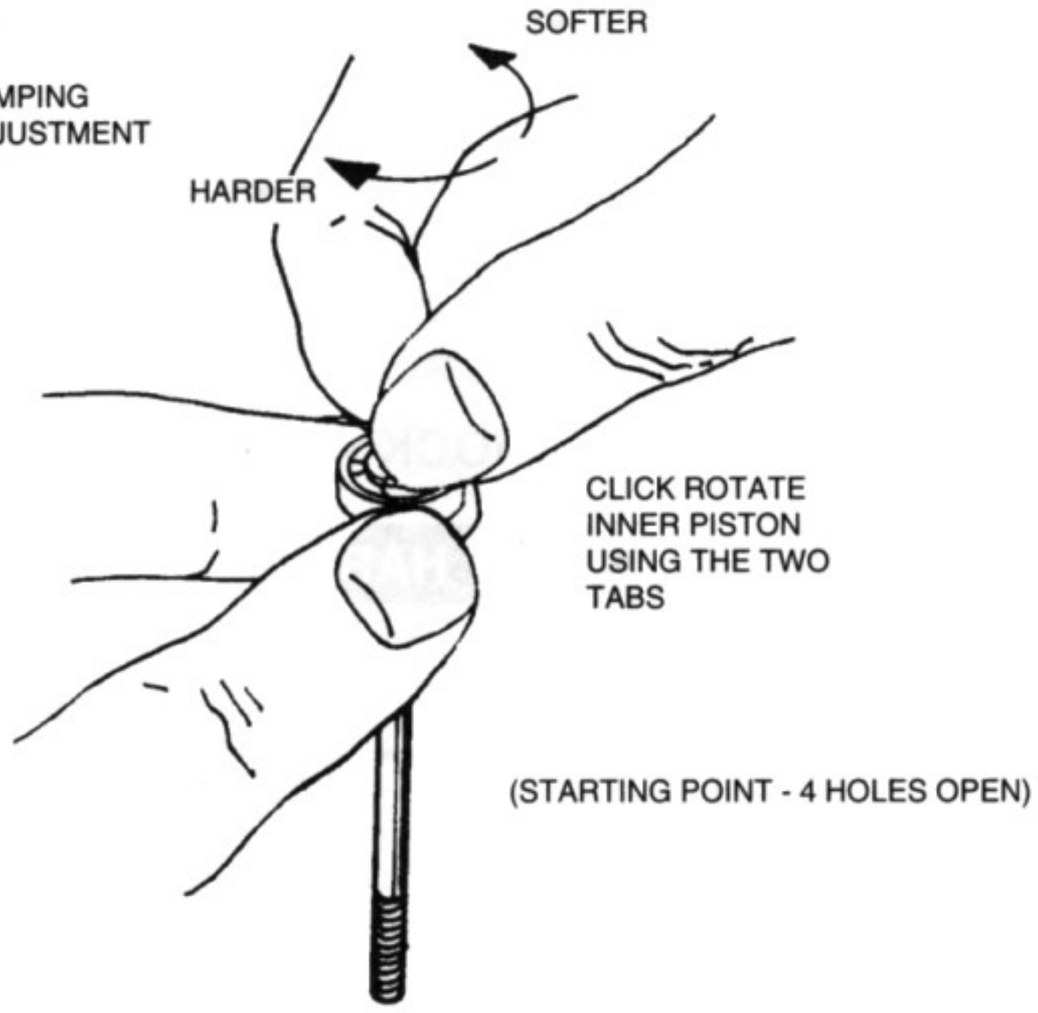
F X4 LARGE THIN 'O' RING

G X4 FOAM VOLUME COMPENSATOR

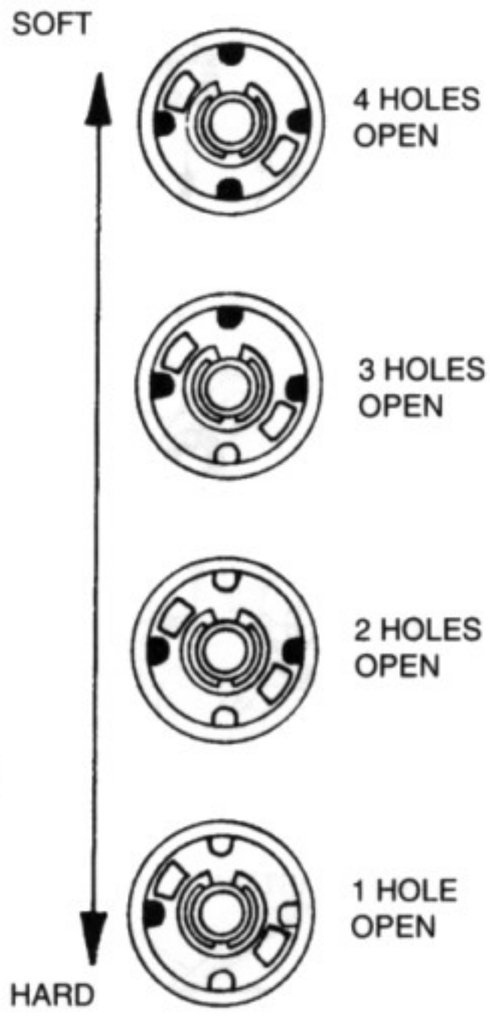
SCHUMACHER SELL A RANGE OF HIGH QUALITY SILICONE SHOCK OIL

G010U	SCHUMACHER SILICONE SHOCK OIL - 10W
G015A	SCHUMACHER SILICONE SHOCK OIL - 15W
G020F	SCHUMACHER SILICONE SHOCK OIL - 20W
G025L	SCHUMACHER SILICONE SHOCK OIL - 25W
G030T	SCHUMACHER SILICONE SHOCK OIL - 30W
G035Y	SCHUMACHER SILICONE SHOCK OIL - 35W
G040E	SCHUMACHER SILICONE SHOCK OIL - 40W
G045K	SCHUMACHER SILICONE SHOCK OIL - 45W
G050R	SCHUMACHER SILICONE SHOCK OIL - 50W
G055X	SCHUMACHER SILICONE SHOCK OIL - 55W
G060D	SCHUMACHER SILICONE SHOCK OIL - 60W
G070P	SCHUMACHER SILICONE SHOCK OIL - 70W
G080C	SCHUMACHER SILICONE SHOCK OIL - 80W

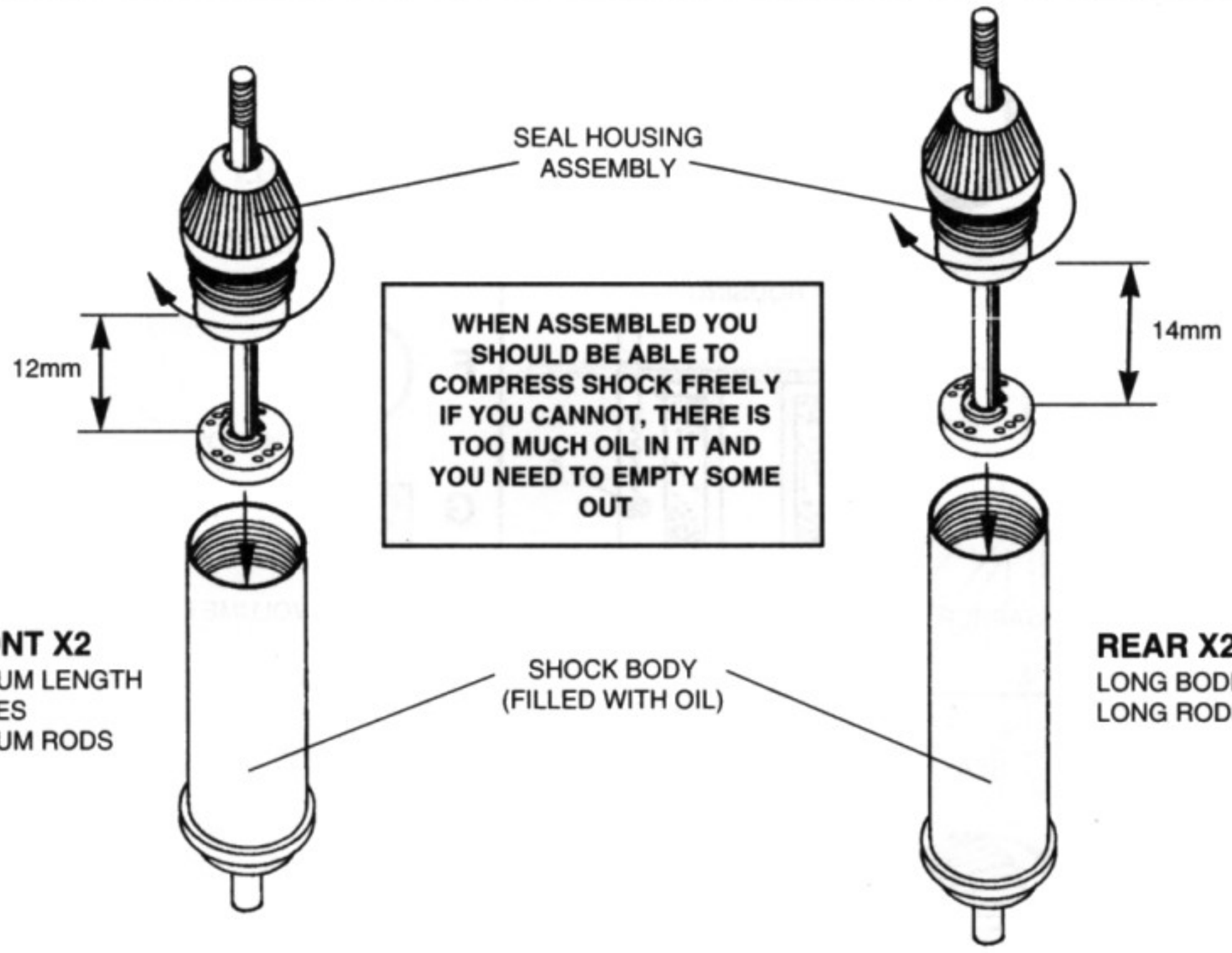
5



(STARTING POINT - 4 HOLES OPEN)



6

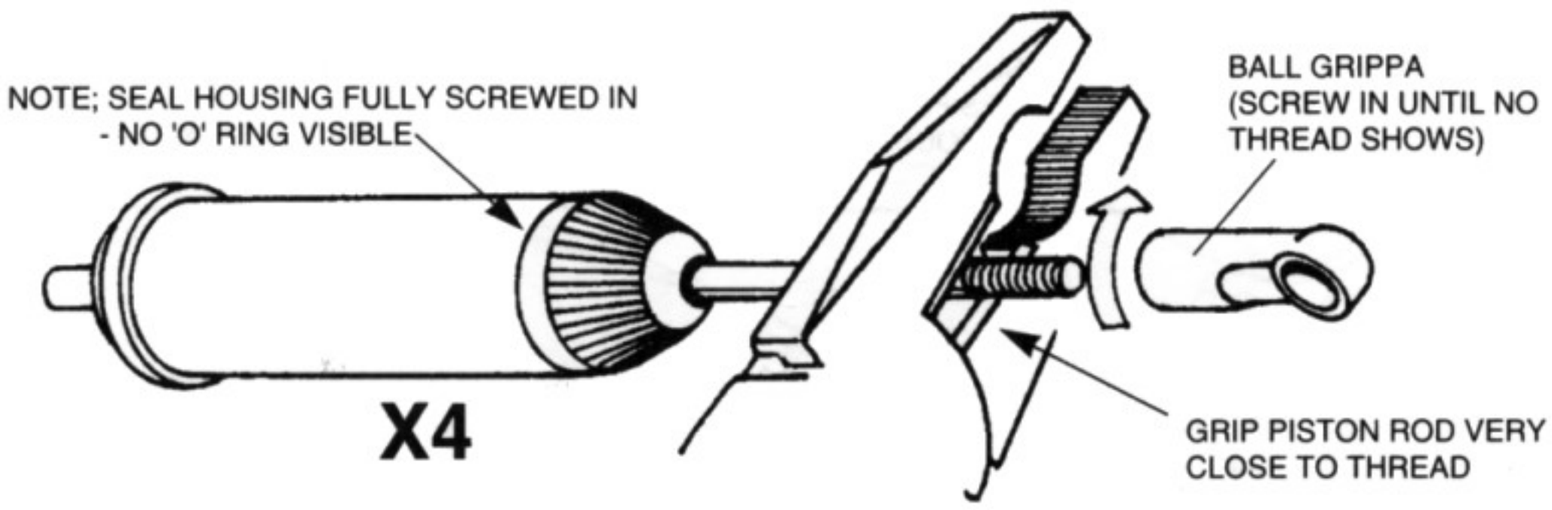


WHEN ASSEMBLED YOU SHOULD BE ABLE TO COMPRESS SHOCK FREELY IF YOU CANNOT, THERE IS TOO MUCH OIL IN IT AND YOU NEED TO EMPTY SOME OUT

FRONT X2
MEDIUM LENGTH BODIES
MEDIUM RODS

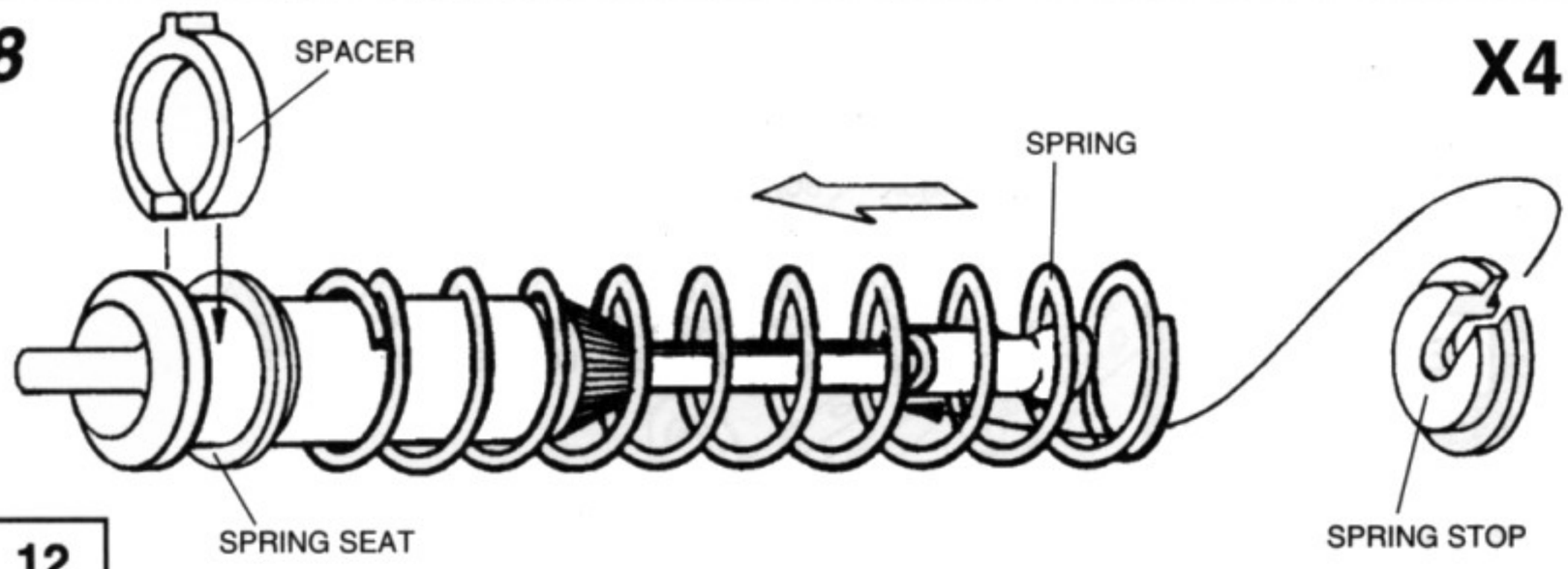
REAR X2
LONG BODIES
LONG RODS

7



X4

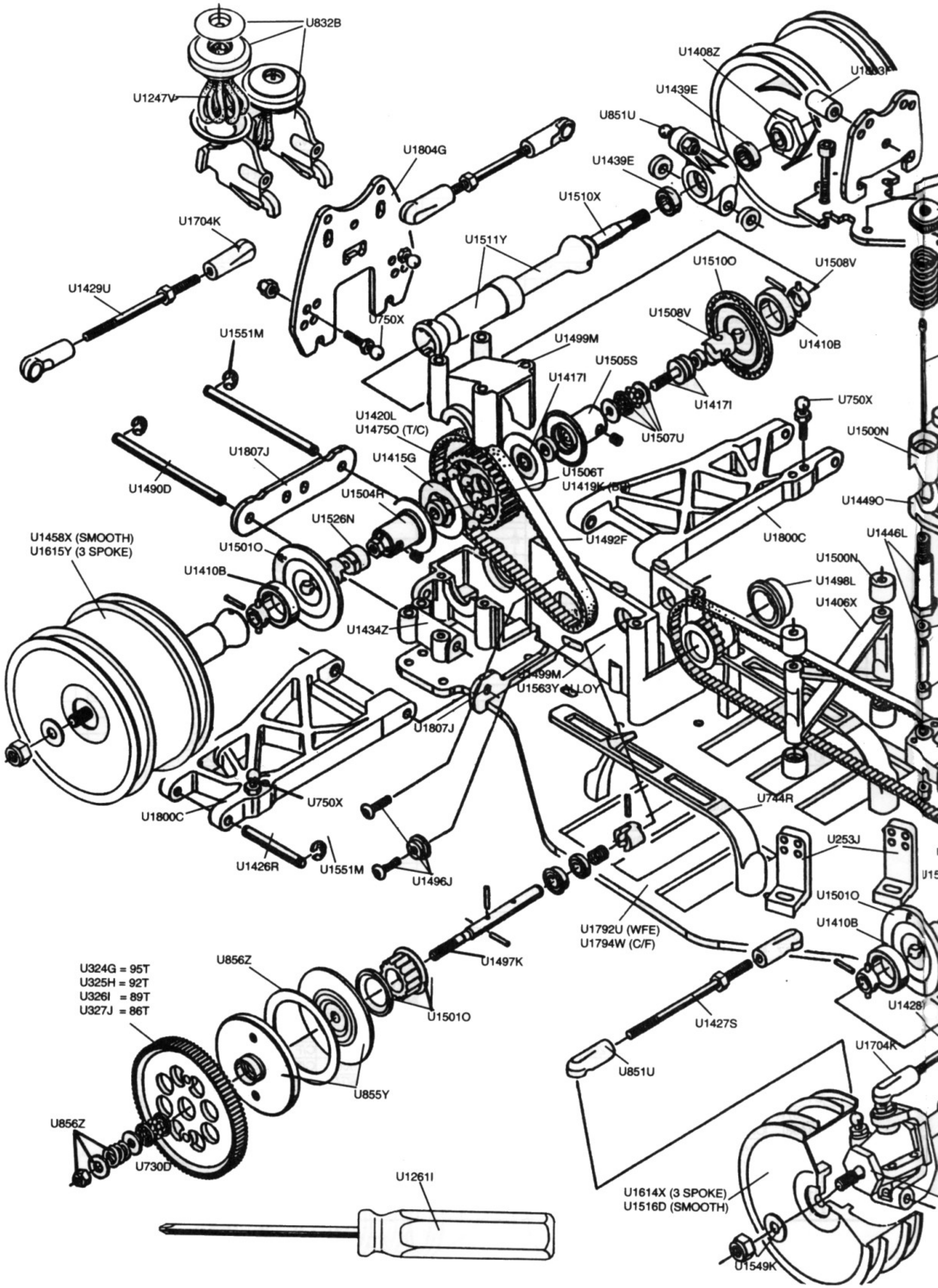
8



X4

QTY REQ	PART NO	DESCRIPTION	LIST PRICE
	.	**KITS**	
NEW	U498Y	**CAT 2000 E.C. - Euro Champ 4WD**	
	U496W	**CAT 2000 - 4WD "OPEL CALIBRA"**	
	.	**BODY & CHASSIS**	
	U1042W	Aerial Mount - Universal	
	U119J	Aerial Tube	
	U1403U	Wing & Side Plates - OFF ROAD	
	U1406X	Chassis Gates - C2000 (pk 5)	
	U1513A	Front Bumper - CAT2000	
	U1515C	Decal Sheet - CAT2000	
NEW	U1792U	Lower Chassis WFE - CAT 2000 E.C	
NEW	U1793V	Upper Chassis, WFE - CAT 2000 E.C	
NEW	U1802E	Instruction Manual - CAT2000 E.C.	
NEW	U1808K	Speedo Mount, WFE - CAT2000 E.C.	
	U253J	Servo Mounts - Lay Down (pr)	
	U5037N	Undertray - Cat 2000	
NEW	U5055F	Bodyshell, "Laydown" - Cat 2000 E.C.	
	U744R	Q.C. Saddle Pack Strap (pk2)	
	U832B	Wing Mount Kit	
	.	**SUSPENSION**	
	U1426R	Pivot Pin-Rear Outer-C2000 2&4 (pr)	
	U1427S	Turnbuckle 540unc x 65mm (pr)	
	U1428T	Turnbuckle 540unc x 60mm (pr)	
	U1429U	Turnbuckle 540unc x 53mm (pr)	
	U1430V	Turnbuckle 540unc x 39mm (pr)	
	U1434Z	Rear Pivot Block-C2000 2 & 4WD (pr)	
	U1439E	Ball Bearing 5 x 9 x 3mm (pr)	
	U1440F	Pivot Pin - Front Outer (pr)	
	U1444J	Bush 1/8 x 1/4" (pk 4)	
	U1445K	Steering Posts & Washer - C2000	
	U1446L	Servo Saver - C2000	
	U1449O	Steering Levers - Cougar2000 (pr)	
	U1450P	Track Rod & Servo Horns	
	U1478R	Steering Yokes - CAT2000 (pr)	
	U1479S	Front Hub Carriers - CAT2000 (pr)	
	U1481U	Front Pivot Blocks - CAT2000	
	U1484X	Front Pivot Bar - CAT2000	
	U1485Y	Centre Track Rod - CAT2000 set	
	U1486Z	Pivot Set - Front Hub Carrier - CAT2000	
	U1490D	Pivot Pin, Rear Inner - C2000 (pr)	
	U1614X	Front Wheels, 3 Spoke CAT 2000	
	U1615Y	Rear Wheels, 3 Spoke - 2000	
NEW	U1704K	"Ball Grippa" Sockets (pk 8)	
NEW	U1798A	Rear Hub Carrier - 3 deg Toe In (pr)	
NEW	U1800C	Rear Wishbones, Laydown-CAT E.C.	
NEW	U1801D	Front Wishbones, Laydown-CAT E.C.	
NEW	U1803F	Front Shock Mount & Brace - CAT E.C.	
NEW	U1804G	Rear Shock & Wing Mount - CAT E.C.	
NEW	U750X	"Ball Grippa" Short Stud Ball Joint (8prs)	
NEW	U851U	"Ball Grippa" Long Stud Ball Joint (8prs)	
	.	**TRANSMISSION**	
	U1301W	Silicone Diff Grease - Tube	
	U1408Z	Hex Wheel Drive - C2000 2&4 (pr)	
	U1410B	Ball Bearing - 10 x 15 x 4 (pr)	
	U1415G	Diff Washer - 18mm C2000 (pr)	
	U1417I	Diff Screw, Springs&Spacer - C2000	
	U1420L	Diff Balls 4mm - Carbon Chrome (pk10)	
	U1491E	Front Drive Belt, 170 x 4mm - CAT2000	
	U1492F	6mm Rear Drive Belt - CAT2000	
	U1493G	Motor Plate - CAT2000	
	U1494H	Motor Heatsinks - CAT2000 (pk3)	
	U1496J	Motor Screw Set - CAT2000	
	U1497K	Slipper Layshaft - CAT2000	
	U1498L	One Way Pulley Set - CAT2000	
	U1499M	Rear Trans Housings - CAT2000	
	U1500N	Front Trans Housings - CAT2000	
	U1501O	Layshaft pulley & Flanges - CAT2000	
	U1502P	18mm Diff, Assembled - CAT2000	
	U1503Q	18mm Diff Pulley - CAT2000	

QTY REQ	PART NO	DESCRIPTION	LIST PRICE
		TRANSMISSION CONTINUED	
	U1504R	Washer Carrier; male, Co-Ax U/J	
	U1505S	Washer Carrier; female, Co-Ax U/J	
	U1506T	Diff Bushings 4 x 8 x 2mm - C2000 (pr)	
	U1507U	Diff Thrust Bearing - C2000	
	U1508V	Inboard Co-Ax U/J - C2000 (each)	
	U1509W	Front Axle Co-Ax U/J-Cat 2000 (each)	
	U1510X	Rear Axle Co-Ax U/J - C2000 (each)	
	U1511Y	Driveshafts, Co-Ax U/J - C2000 (pr)	
	U1512Z	Idler Set, Front Belt - CAT2000	
	U1526N	Diff Nut Lock - Cat 2000	
	U1529Q	Ball Bearing - 4 x 8 x 3 Flanged (pr)	
	U730D	Thrust Bearing 1/8" x 5/16"	
	U855Y	Thrust Plate & Drive Hub - Slipper	
	U856Z	Repair Kit - Q C Slipper	
	.	**TOURING CAR**	
	U1480T	Front & Rear Bulkheads - CAT2000	
	U1487A	Rear Wishbones - CAT2000 (pr)	
	U1514B	Instruction Book - CAT2000/94	
	U1518F	Upper Chassis - WFE - CAT2000	
	U1559U	Ultra-Short Vari Shock Absorbers (pr)	
	U1560V	Touring Body Mounts-Cat EC (+U1480T)	
	U1562X	Touring Conversion - Cat EC (+U1480T)	
	U1564Z	C/F Hi Response Chassis-Cat 2000	
	U1613W	Ultra Short Rear Spring - S16 (pr)	
	U1751F	Non Slipper Layshaft - CAT 2000	
	U1752G	Touring Chassis, WFE - CAT2000	
	U5048Y	Bodyshell - "Opel Calibra"	
	U6559B	"Sponges" Rear, 3 Spoke - 2000	
	U6571N	"Sponges" Front, 3 Spoke - Cat 2000	
	U786H	Body Posts - Fully adj. (pk 4)	
	U823S	QC Slipper Clutch+Gears (reqs U1497K)	
	.	**SPEED SECRETS - OPTION PARTS**	
	U1248V	Ballbearings - C2000 Steering (pk 2)	
	U1261I	Pozi Screw Driver No 1	
	U1419K	Diff Ball Bearing 4 x 8 x 2mm (pr)	
	U1475O	Tungsten Carbide Diff Balls 4mm(pk10)	
	U1476P	Tungsten Carbide Balls 1/16" (pk8)	
	U1524L	Lexan Gear Cover - Cat 2000	
	U1525M	Roller Drive Shaft Conversion (pr)	
	U1528P	Roller One Way Conv. Kit Cat 2000	
	U1530R	Rear Anti Roll Bar - Cat 2000	
	U1531S	Bump Steer Set - Cat 2000	
	U1532T	Caster Blocks 5 deg - Cat 2000 (pr)	
	U1534V	Dual Rate Shock Pistons (2prs)	
	U1561W	Circuit Buggy Conversion Set - Cat2000	
	U1563Y	Alloy Transmission Housing - Cat 2000	
	U1566B	Wide Front Bumper - Cat 2000	
	U1745Z	Front Lower Alloy Trans hsg - CAT 2000	
NEW	U1784M	Rear Geometry Set - CAT 2000 E.C	
NEW	U1785N	Laydown Susp; Set - CAT 2000 E.C	
NEW	U1787P	Viscous Drive Unit - Universal	
NEW	U1788Q	Layshaft, Viscous Drive - CAT 2000	
NEW	U1794W	C/F Lower Chassis - CAT2000 E.C.	
NEW	U1795X	C/F Upper Chassis - CAT2000 E.C.	
NEW	U1796Y	Rear Hub Carrier - 1 deg Toe In (pr)	
NEW	U1797Z	Rear Hub Carrier - 2 deg Toe In (pr)	
NEW	U1799B	Rear Hub Carrier - 4 deg Toe In (pr)	
NEW	U1805H	C/F Front Shock Mnt & Brace - CAT E.C.	
NEW	U1806I	C/F Rear Shock & Wing Mnt - CAT E.C.	
NEW	U1807J	Alloy Rear Pivot Braces - CAT E.C. (pr)	
NEW	U1818U	Alloy Shock Seal Housings (pr)	
	U5041R	Flex-Wing - Moulded WHITE	
	U818N	Ball Bearings-Roller D/Shaft pair	
	.	**See Accessories Price List For:**	
	.	**SPEED PACKS - HARDWARE**	
	.	**SHOCK ABSORBERS**	
	.	**SPRINGS**	


U832B
U1247V
U1804G
U1704K
U1429U
U750X
U1551M
U1807J
U1490D
U1420L
U1475O (T/C)
U1415G
U1504R
U1526N
U1501O
U1410B
U1458X (SMOOTH)
U1615Y (3 SPOKE)
U1434Z
U1800C
U750X
U1426R
U1551M
U1496J
U1807J
U1511Y
U1499M
U1505S
U1417I
U1507U
U1506T
U1419K (S/C)
U1492F
U1800C
U1563Y ALLOY
U1499M
U1408Z
U1439E
U851U
U1439E
U1510X
U1510O
U1508V
U1508V
U1410B
U1417I
U750X
U1500N
U1449O
U1446L
U1500N
U1498L
U1406X
U744R
U1792U (WFE)
U1794W (C/F)
U1497K
U856Z
U1501O
U855Y
U856Z
U730D
U324G = 95T
U325H = 92T
U326I = 89T
U327J = 86T
U1261I
U253J
U1501O
U1410B
U1427S
U851U
U1704K
U1614X (3 SPOKE)
U1516D (SMOOTH)
U1549K

Schumacher

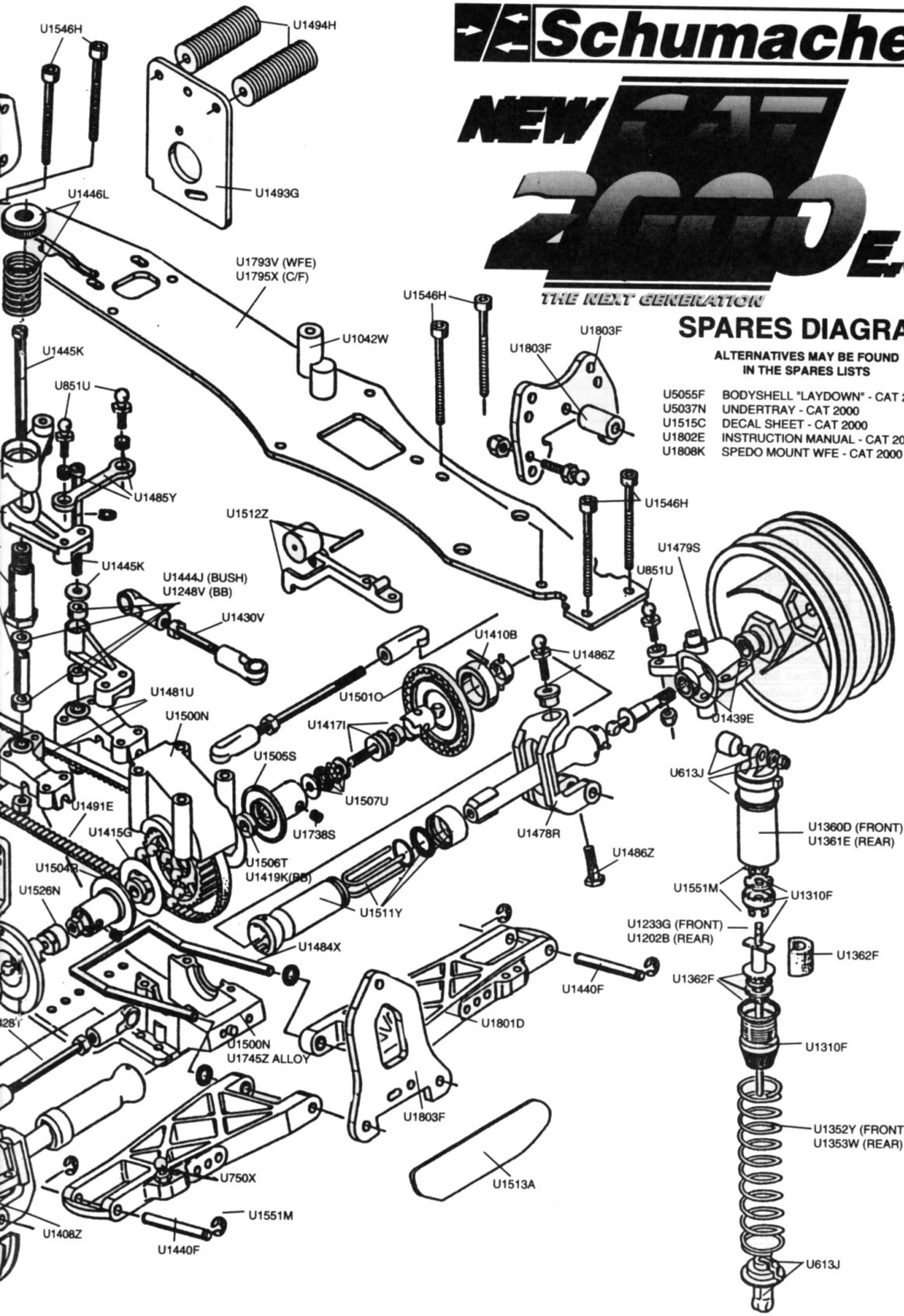
NEW CAT 2000 E.C.

THE NEXT GENERATION

SPARES DIAGRAM

ALTERNATIVES MAY BE FOUND IN THE SPARES LISTS

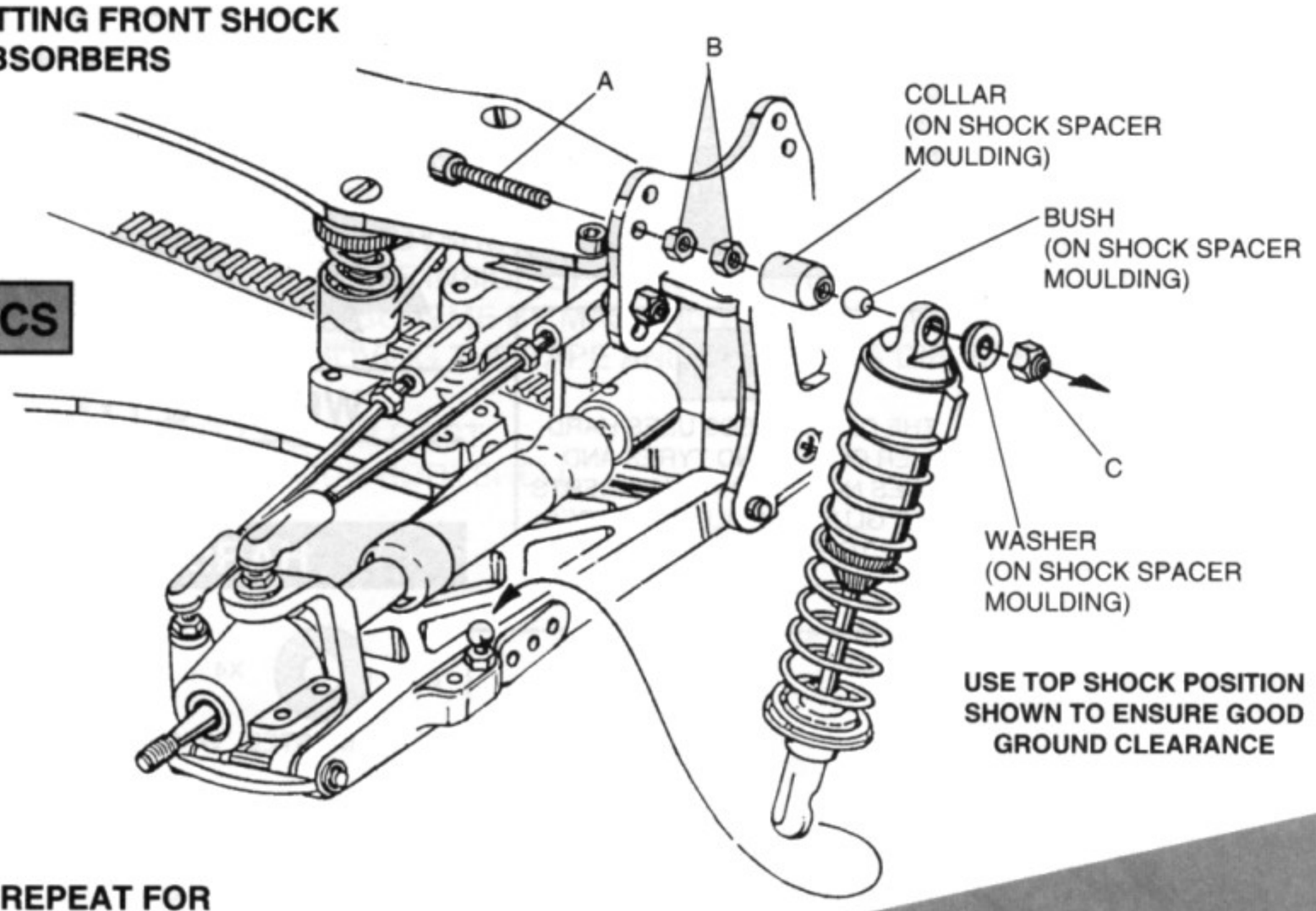
U5055F	BODYSHELL "LAYDOWN" - CAT 2000 EC
U5037N	UNDERTRAY - CAT 2000
U1515C	DECAL SHEET - CAT 2000
U1802E	INSTRUCTION MANUAL - CAT 2000
U1808K	SPEDO MOUNT WFE - CAT 2000 EC



QTY REQ	PART NO	DESCRIPTION	LIST PRICE		QTY REQ	PART NO	DESCRIPTION	LIST PRICE
	.	**SPEED PACKS - HARDWARE**				.	**SHOCK OIL**	
	U1247U	SPEED PACK - Wing Mount 'O' Ring				G756I	Silicone Shock Oil - 10wt	
	U1309E	SPEED PACK-Hi-Tensile Wheel Screws				G757J	Silicone Shock Oil - 15wt	
	U1537Y	SPEED PACK - Short Self Tap Pan				G758K	Silicone Shock Oil - 20wt	
	U1538Z	SPEED PACK - Long Self Tap Pan				G759L	Silicone shock Oil - 25wt	
	U1539A	SPEED PACK - Self Tap Csk Hd				G760M	Silicone Shock Oil - 30wt	
	U1540B	SPEED PACK - Short M3 Pan Hd				G761N	Silicone Shock Oil - 35wt	
	U1541C	SPEED PACK - Medium M3 Pan Hd				G762O	SiliconeShock Oil - 40wt	
	U1542D	SPEED PACK - Long M3 Pan Hd				G763P	Silicone Shock Oil - 80wt	
	U1543E	SPEED PACK - M3 Csk Hd				.	**ACCESSORIES**	
	U1544F	SPEED PACK - Short M3, Cap Hd				U058A	Nicad Clamps (Pair)	
	U1545G	SPEED PACK - Medium M3 Cap Hd				U1042W	Aerial Mount - Universal	
	U1546H	SPEED PACK - Long M3 Cap Hd				U1194U	98T "Whisper" Gear - 48 D.P.	
	U1547I	SPEED PACK - M3 Nuts				U1195V	98T Q.C. Slipper Gear - 48 D.P.	
	U1548J	SPEED PACK - M3 Washers				U119J	Aerial Tube	
	U1549K	SPEED PACK - M4 Nuts & Washers				U122M	Velcro 1/2metre x 10mm.	
	U1550L	SPEED PACK - Socket Wrenches (pk3)				U1261I	Pozi Screw Driver No 1	
	U1551M	SPEED PACK - "E" Clips 1/8" (pk8)				U1276X	M4 x 35mm Turnbuckle Adjuster pair	
	U1552N	SPEED PACK - "R" Clips (pk8)				U1403U	Wing & Side Plates - OFF ROAD	
	U1565A	SPEED PACK - Small Self Tap, PanHd				U1427S	Turnbuckle 540unc x 65mm (pr)	
	U1606P	SPEED PACK - Servo Tape				U1428T	Turnbuckle 540unc x 60mm (pr)	
	U1633Q	SPEED PACK - Needle Rollers (pk)				U1429U	Turnbuckle 540unc x 53mm (pr)	
	U1700G	SPEED PACK - M4 x 12 Csk Unbrako (pk4)				U1430V	Turnbuckle 540unc x 39mm (pr)	
	U1738S	SPEED PACK - Grub-Set Screws (pk)				U1697D	Stick Nicad Straps - Bosscat (pr)	
	U1769X	SPEED PACK - Large Self Taps (pk8)			**NEW**	U1704K	"Ball Grippa" Sockets (pk 8)	
	U1770Y	SPEED PACK - M5 x 14mm Screws (pk4)				U229L	95T "Whisper" Gear - 48 D.P.	
	U1771Z	SPEED PACK - Tywraps (pk8)				U230M	92T "Whisper" Gear - 48 D.P.	
	U1779H	SPEED PACK - 4 X 40 UNC screws				U231N	89T "Whisper" Gear - 48 D.P.	
	.	**SHOCK ABSORBERS**				U232O	86T "Whisper" Gear - 48 D.P.	
	U1202B	Piston Rod - Long Shock (pr)				U233P	19T PINION - 48 D.P.	
	U1233G	Piston Rod - Med Shock (pr)				U234Q	22T PINION - 48 D.P.	
	U1258F	Piston Rod, Short Shock (pr)				U235R	25T PINION - 48 D.P.	
	U1272T	Vari Shock Body - Short (each)				U236S	28T PINION - 48 D.P.	
	U1273U	Vari Shock Body - Medium (each)				U253J	Servo Mounts - Lay Down (pr)	
	U1274V	Vari Shock Body - Long (each)				U254K	Nicad Holder - Stick Pack 1	
	U1310F	Shock Mouldings-Vari Click Piston (pr)				U324G	95T QC Slipper Gear - 48 DP	
	U1356Z	Pro-Shock Absorbers - Short (pr)				U325H	92T QC Slipper Gear - 48 DP	
	U1357A	Pro-Shock Absorbers - Medium (pr)				U326I	89T QC Slipper Gear - 48 DP	
	U1358B	Pro-Shock Absorbers - Long (pr)				U327J	86T QC Slipper Gear - 48 DP	
	U1359C	Pro-Shock Body - Short (each)				U5041R	Flex-Wing - Moulded WHITE	
	U1360D	Pro-Shock Body - Medium each				U636G	M3 Ball Joints Bag (pk4)	
	U1361E	Pro-Shock Body - Long each				U717Q	Adjustable Servo Link (2 sets)	
	U1362F	Pro-Shock Seal Pack (pr)				U728B	Rose Joints M3 - Short (pk 4)	
	U1534V	Dual Rate Shock Pistons (2prs)				U743Q	Q.C. Saddle Pack Tray & Strap (pr)	
	U1557S	Ultra-Short Shock Rod (pr)				U744R	Q.C. Saddle Pack Strap (pk2)	
	U1558T	Ultra-Short Shock Body (each)			**NEW**	U750X	"Ball Grippa" Short Stud Ball Joint (8prs)	
	U1559U	Ultra-Short Vari Shock Absorbers (pr)				U786H	Body Posts - Fully adj. (pk 4)	
	U5023Z	Vari Shock Absorbers - Short (pr)				U796R	Turnbuckle Adjuster - 24mm (pk2)	
	U5024A	Vari Shock Absorbers - Medium (pr)				U797S	Turnbuckle Adjuster-35mm (pk2)	
	U5025B	Vari Shock Absorbers - Long (pr)				U798T	Turnbuckle Adjuster-45mm (pk2)	
	U613J	Spring Stop & Spacer Mouldings (pr)				U799U	Rear Suspension Pivots - 2mm 3prs	
	U835E	Shock Seal Pack - standard (pr)				U822R	Rose Joints M3 - Long pk4	
	.	**SPRINGS**				U832B	Wing Mount Kit	
	U1351U	Short Spring Tuning Set-Colour (4prs)			**NEW**	U851U	"Ball Grippa" Long Stud Ball Joint (8prs)	
	U1352V	Med Spring Tuning Set-Coulor (4prs)				.	**TITANIUM**	
	U1353W	Long Spring Tuning Set-Colour (4prs)				U1572H	Titanium Turnbuckle 39mm (pr)	
	U1366J	Ultra Short Rear Spring - S24 (pr)				U1573I	Titanium Turnbuckle 53mm (pr)	
	U1380X	White Shock Springs-Med; rate 1.5 (pr)				U1574J	Titanium Turnbuckle 60mm (pr)	
	U1381Y	White Shock Springs-Long; rate 1.5 (pr)				U1575K	Titanium Turnbuckle 65mm (pr)	
	U1382Z	Yellow Shock Springs-Long; rate 2 (pr)				U1576L	Titanium Pivot Pin 25mm (pr)	
	U1383A	Grey Shock Springs - Long; rate 3 (pr)				U1577M	Titanium Pivot Pin 29mm (pr)	
	U1384B	Blue Shock Springs - Long; rate 4 (pr)				U1578N	Titanium Pivot Pin 42mm (pr)	
	U1385C	Yellow Shock Springs - Med; rate 2 (pr)				U1579O	Titanium Pivot Pin 44mm (pr)	
	U1386D	Grey Shock Springs - Med; rate 3 (pr)				U1580P	Titanium Pivot Pin 48mm (pr)	
	U1387E	Blue Shock Springs - Med; rate 4 (pr)				.	**BODYSHELLS**	
	U1388F	Black Shock Springs - Med; rate 6 (pr)				U5021X	Bodyshell -"Storm" Racing Truck	
	U1389G	Yellow Shock Spring - Short; rate 2 (pr)				U5032I	Bodyshell - "1992 Celica"	
	U1390H	Grey Shock Springs - Short; rate3 (pr)				U5033J	Bodyshell - Rally "Escort Cosworth"	
	U1391I	Blue Shock Springs - Short; rate 4 (pr)				U5047X	Bodyshell - "Alfa Romeo 155"	
	U1392J	Black Shock Springs - Short; rate 6 (pr)				U5048Y	Bodyshell - "Opel Calibra"	
	U1613W	Ultra Short Rear Spring - S16 (pr)				U5049Z	Bodyshell - "Mercedes C-Class"	

9 FITTING FRONT SHOCK ABSORBERS

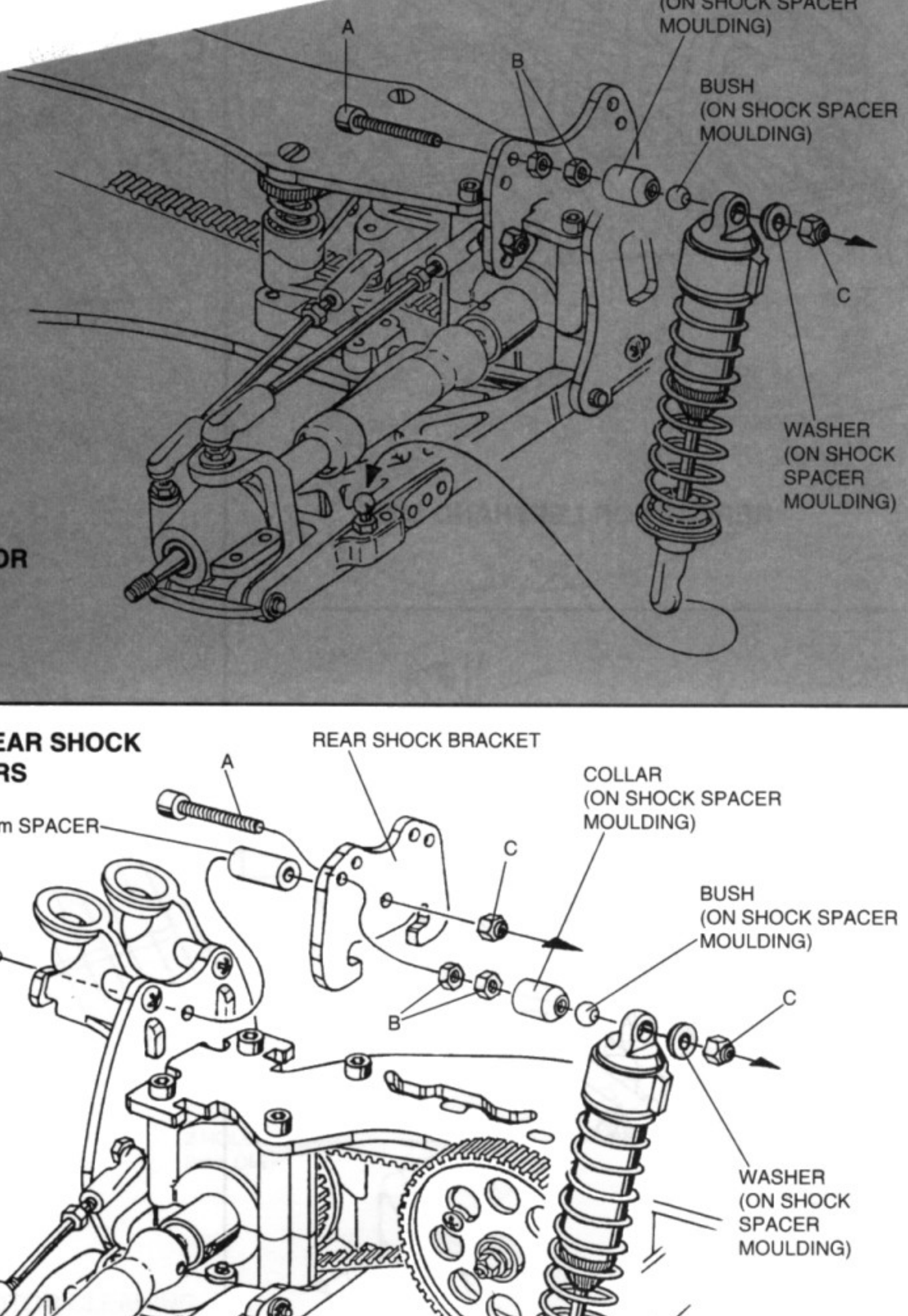
ECS



USE TOP SHOCK POSITION SHOWN TO ENSURE GOOD GROUND CLEARANCE

REPEAT FOR LEFT SIDE

EC



REPEAT FOR LEFT SIDE

10 FITTING REAR SHOCK ABSORBERS

REPEAT FOR LEFT SIDE

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NEW CAT 2000 E.C.
THE NEXT GENERATION

SHOCK ABSORBERS

HARDWARE

A X4
M3 x 20mm CAPHEAD SCREW

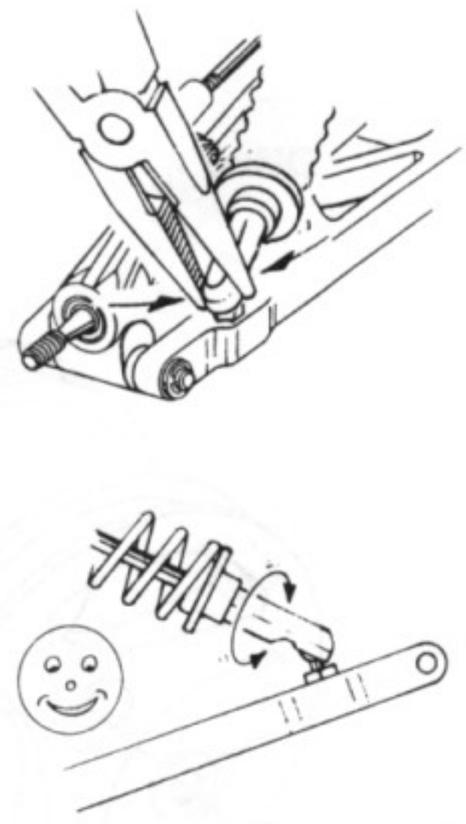
B X8
M3 NUT

C X5
M3 NYLOC NUT

D X1
M3 x 20mm PANHEAD SCREW

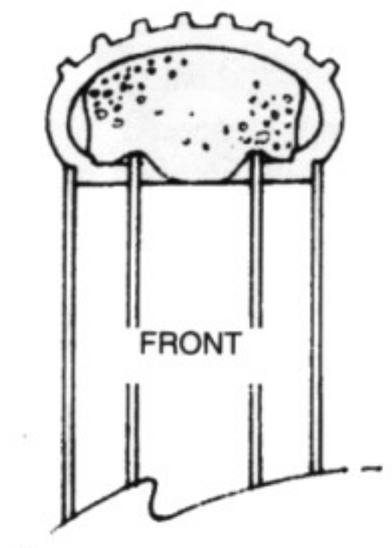
NOTE:

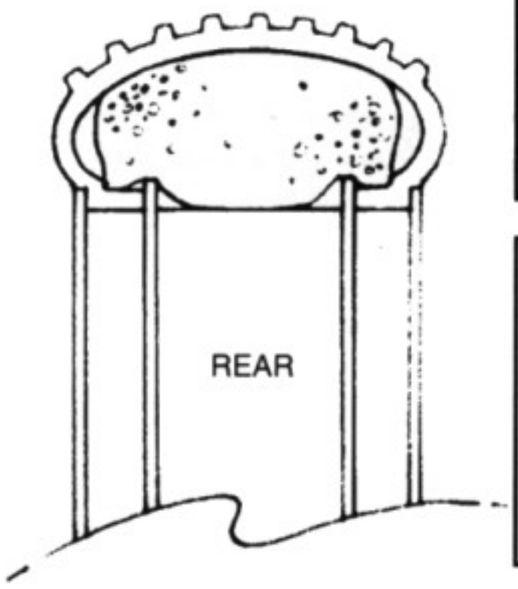
SQUEEZE BALL GRIPPA SOCKETS WITH PLIERS UNTIL YOU GET FREE MOVEMENT OF FRONT & REAR SUSPENSION



1 FITTING TYRES TO WHEELS

MAKE SURE TYRE BEAD SEATS PROPERLY IN GROOVES OF WHEEL





EC

THE CAT 2000 EC USES SOFT COMPOUND TYRES AND NEEDS FOAM TYRE INSERTS. SECURE TYRES IN PLACE USING SUPER-GLUE.

ECS

THE CAT 2000 ECS USES HARD-ER COMPOUND TYRES AND DOES NOT NEED FOAM INSERTS OR GLUE TO HOLD THE TYRES TO THE WHEEL RIMS.

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NEW CAT 2000 E.C.

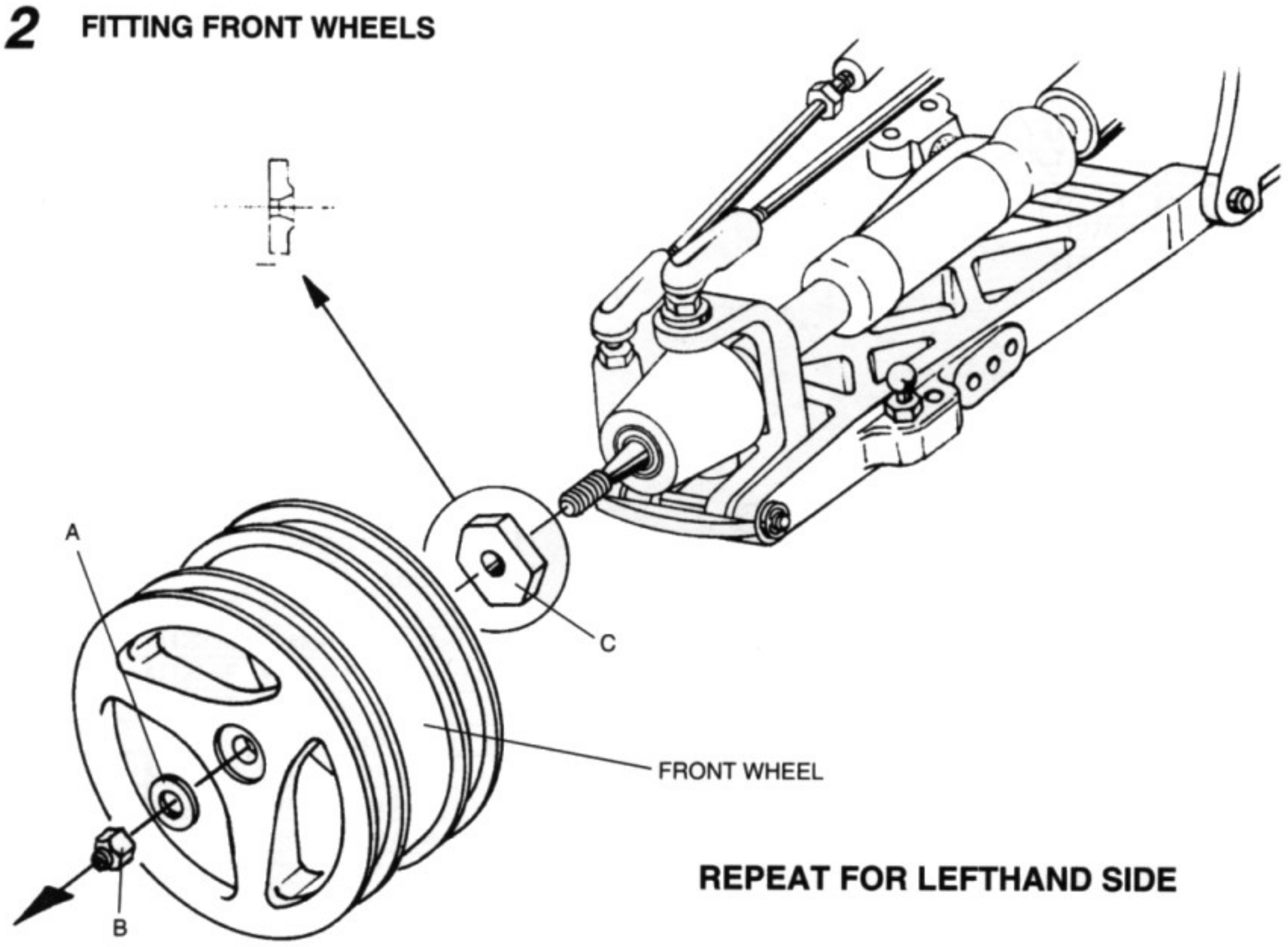
THE NEXT GENERATION

WHEEL & TYRES

BAG 6

HARDWARE

2 FITTING FRONT WHEELS



REPEAT FOR LEFTHAND SIDE

A X4

M4 STEEL WASHER

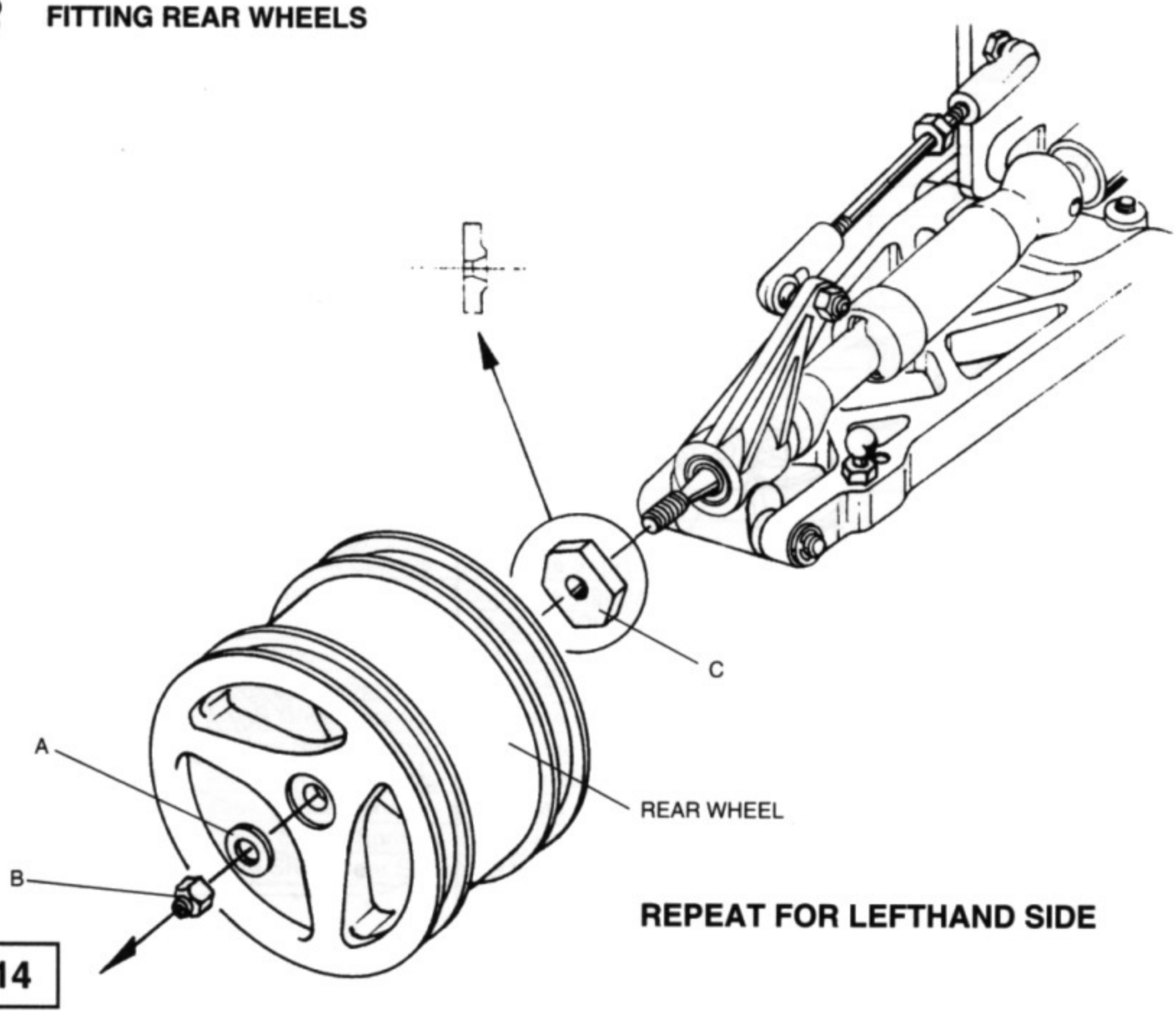
B X4

M4 STEEL WASHER

C X4

HEX DRIVE PLATE - NARROW

3 FITTING REAR WHEELS



REPEAT FOR LEFTHAND SIDE

Schumacher

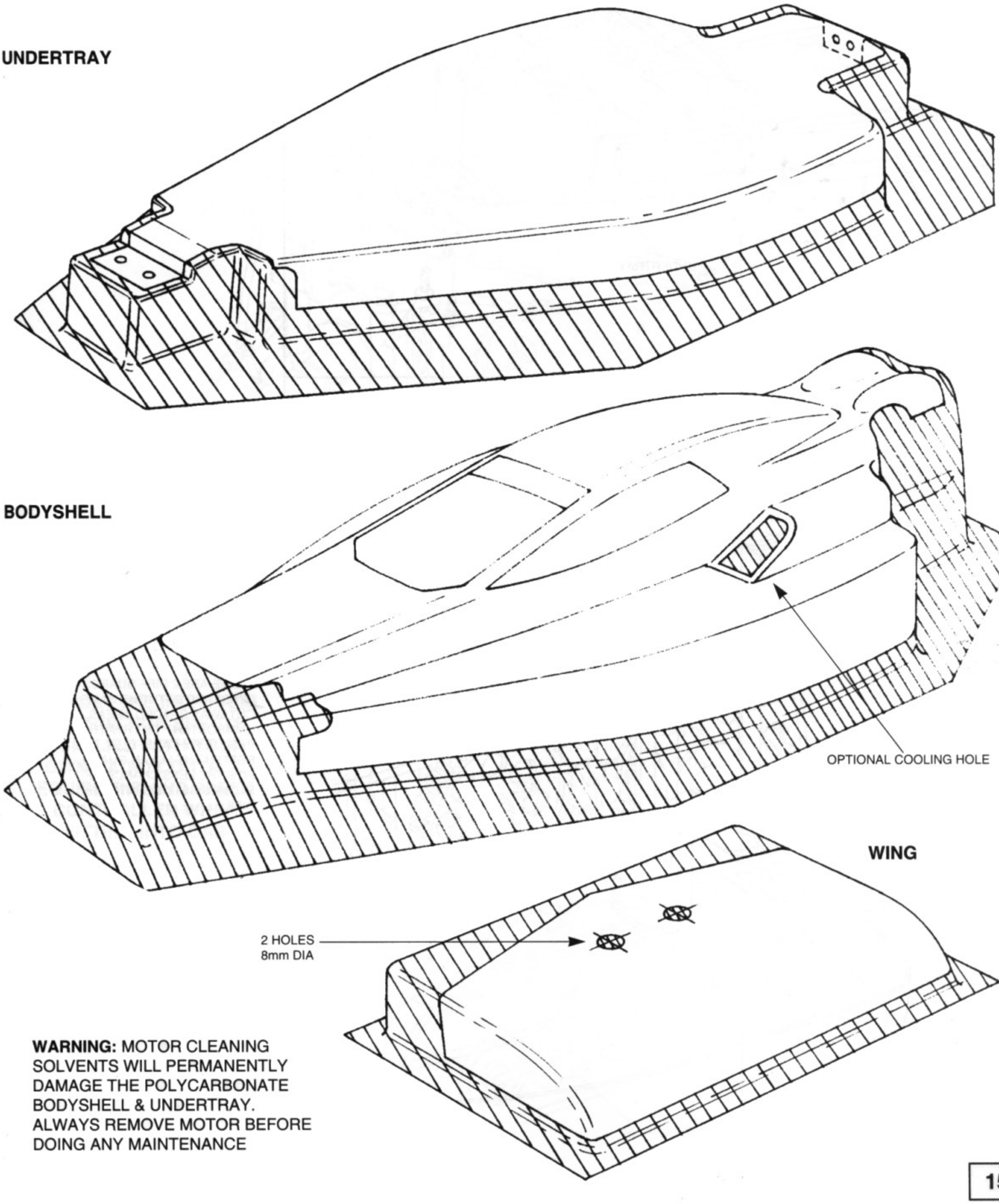
NEW CAT 2000 E.C.

THE NEXT GENERATION

BODYSHELL

CUT AWAY SHADED AREAS.
USE A FILE OR ABRASIVE PAPER TO SMOOTH THE CUT EDGES. ANY RAGGED EDGES OR SCORE LINES MAY CAUSE THE BODYSHELL TO CRACK OR SPLIT WHEN IN USE.
PAINTING: FIRST WASH THE BODYSHELL TO REMOVE ANY OIL OR DIRT. RINSE THOROUGHLY. PAINT THE INSIDE OF THE BODYSHELL AND WING. YOU CAN OBTAIN A COLOUR SCHEME BY MASKING A SECTION WITH TAPE, PAINTING, THEN REMOVING THE TAPE AND PAINTING A DIFFERENT COLOUR.
APPLY THE DARKEST COLOUR FIRST.
USE DECALS TO FINISH YOUR BODYSHELL.

UNDERTRAY



BODYSHELL

OPTIONAL COOLING HOLE

WING

2 HOLES
8mm DIA

WARNING: MOTOR CLEANING SOLVENTS WILL PERMANENTLY DAMAGE THE POLYCARBONATE BODYSHELL & UNDERTRAY. ALWAYS REMOVE MOTOR BEFORE DOING ANY MAINTENANCE

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NEW CAT 2000 E.C.

THE NEXT GENERATION

BUMPER & UNDERTRAY

BAG 6

HARDWARE

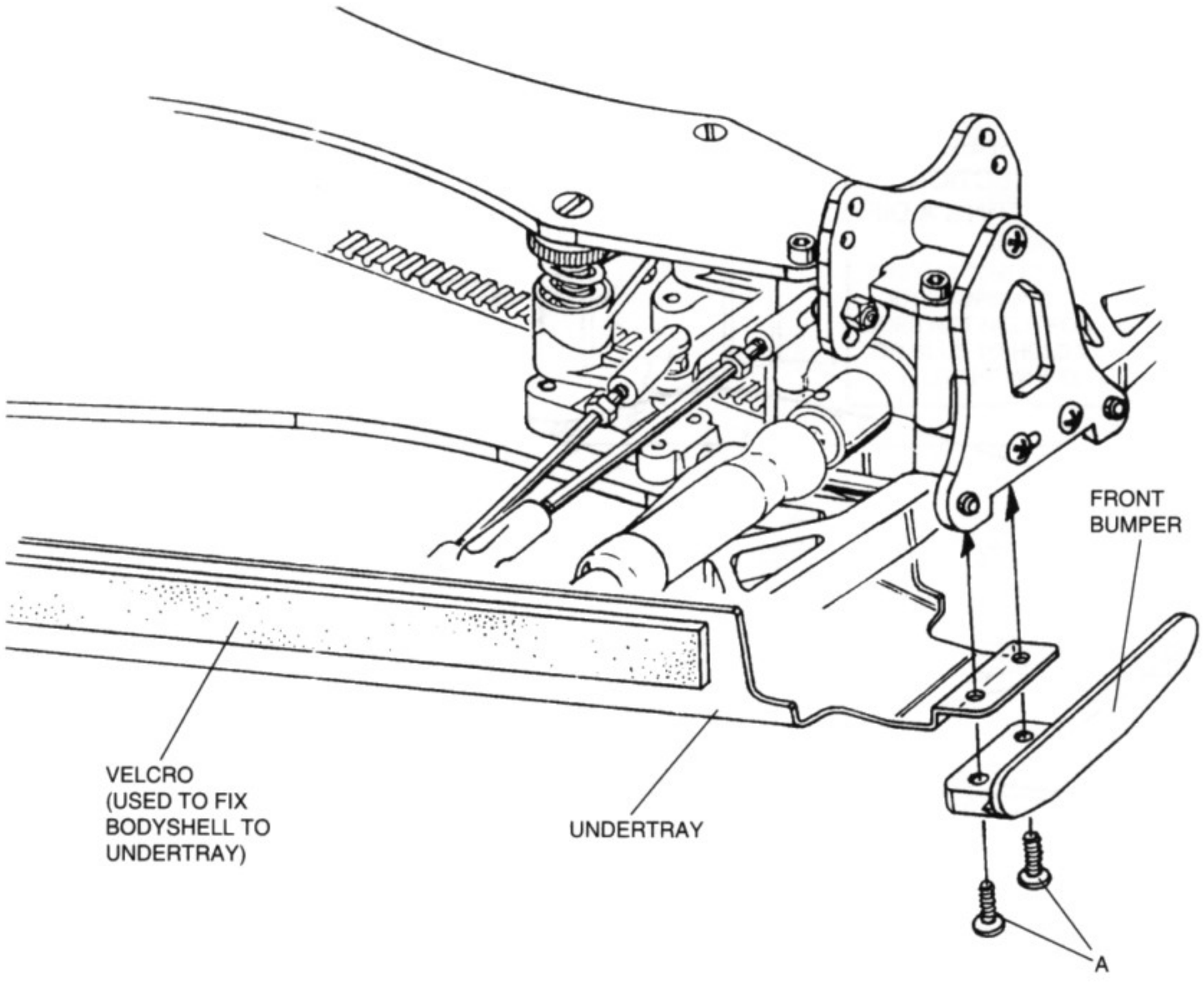
A  X2

No4 x 3/8" SELFTAP PANHEAD SCREW

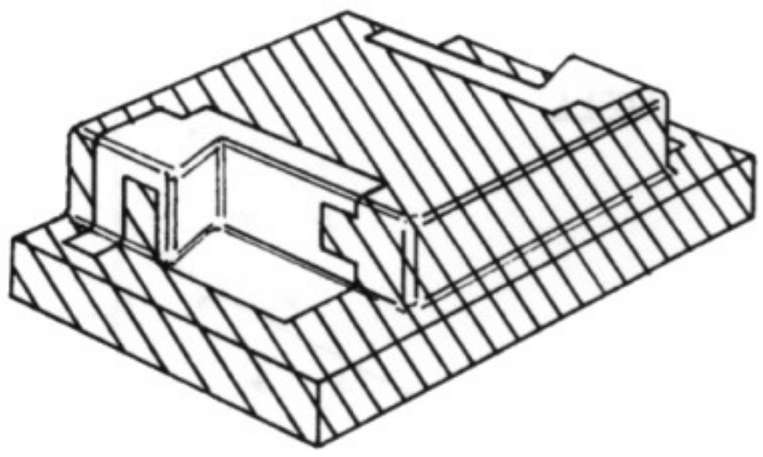
B  X2

No4 x 1/4" SELFTAP PANHEAD SCREW

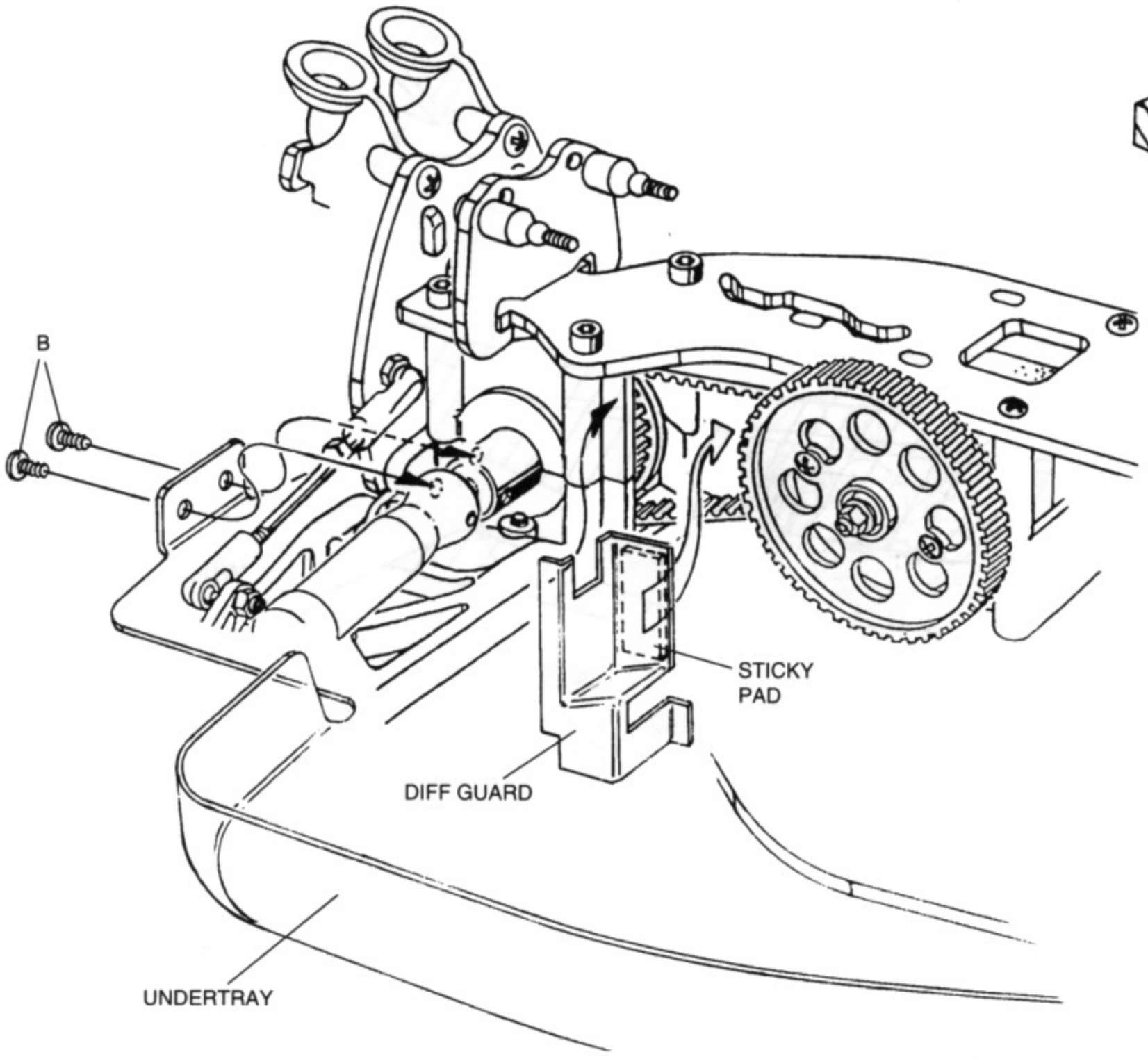
FITTING FRONT BUMPER & UNDERTRAY



FITTING UNDERTRAY AT REAR & DIFF GUARD



THERE ARE 2 DIFF GUARDS (THEY ARE BOTH THE SAME) CUTAWAY SHADED AREAS. IT IS IMPORTANT TO TRIM THIS PART VERY CAREFULLY. THE BETTER THE LEXAN GUARD FITS THE LESS CHANCE OF STONES GETTING INTO THE DIFF.



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NEW CAT 2000 E.C.

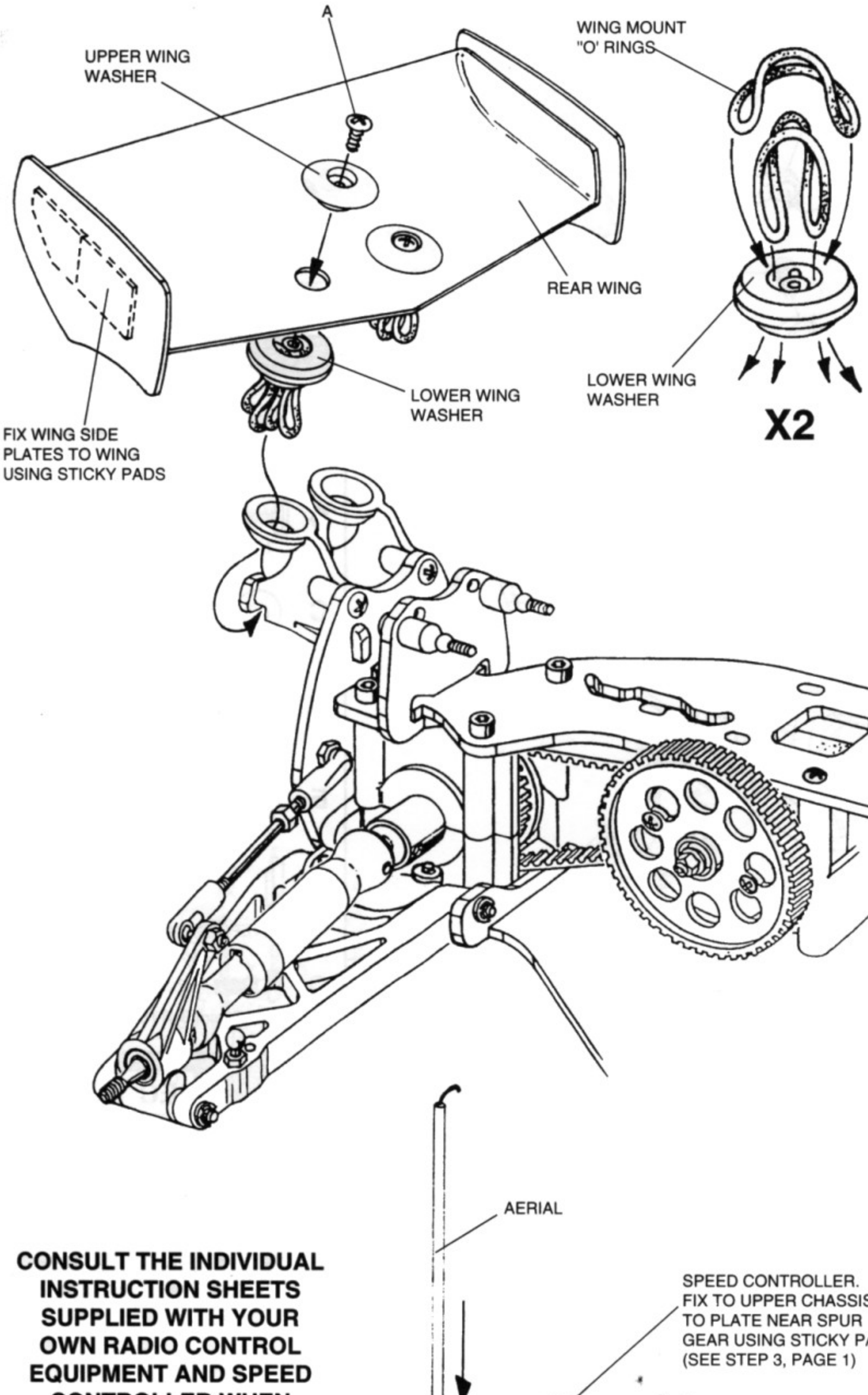
THE NEXT GENERATION

REAR WING

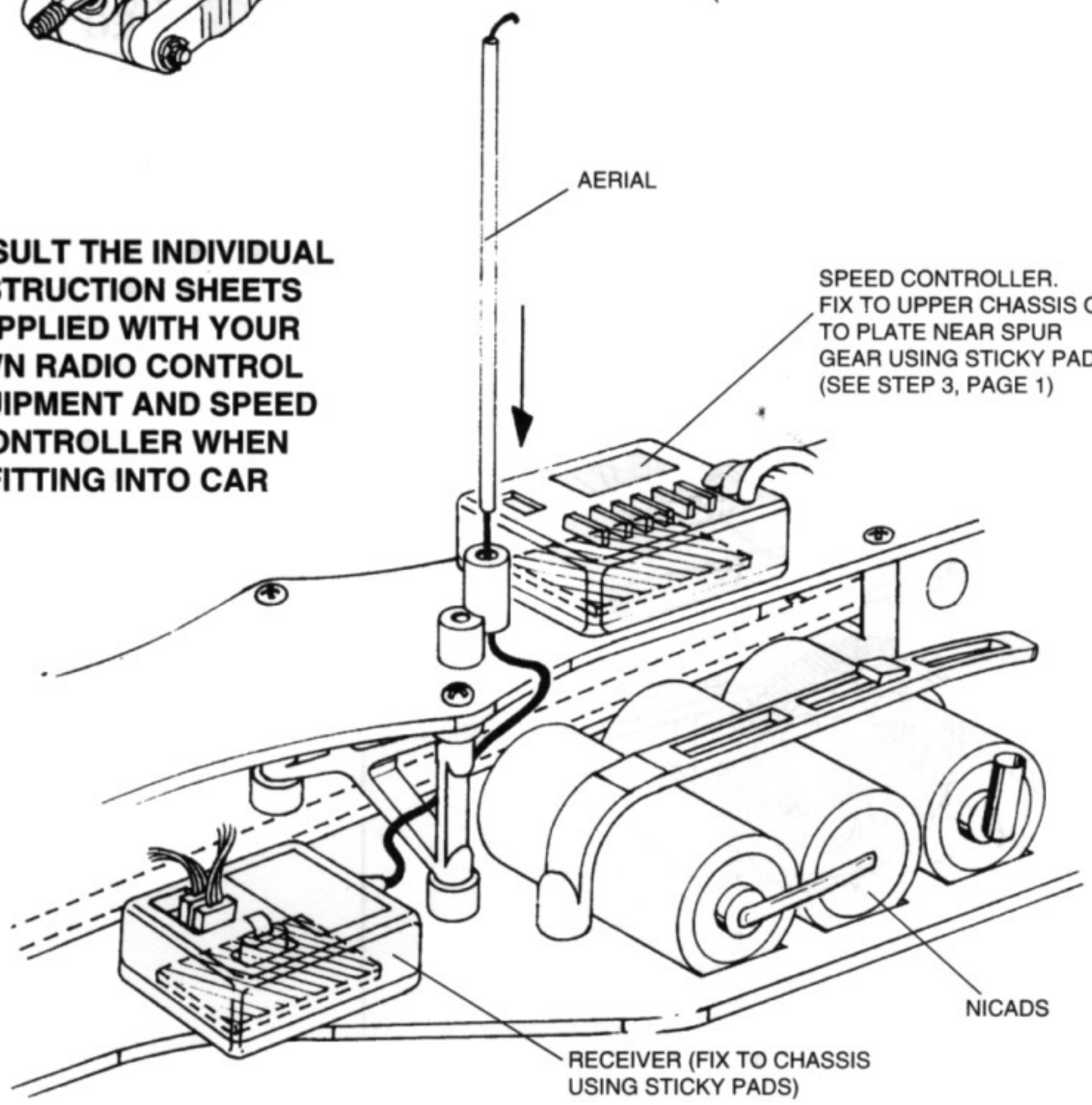
HARDWARE

B  X2

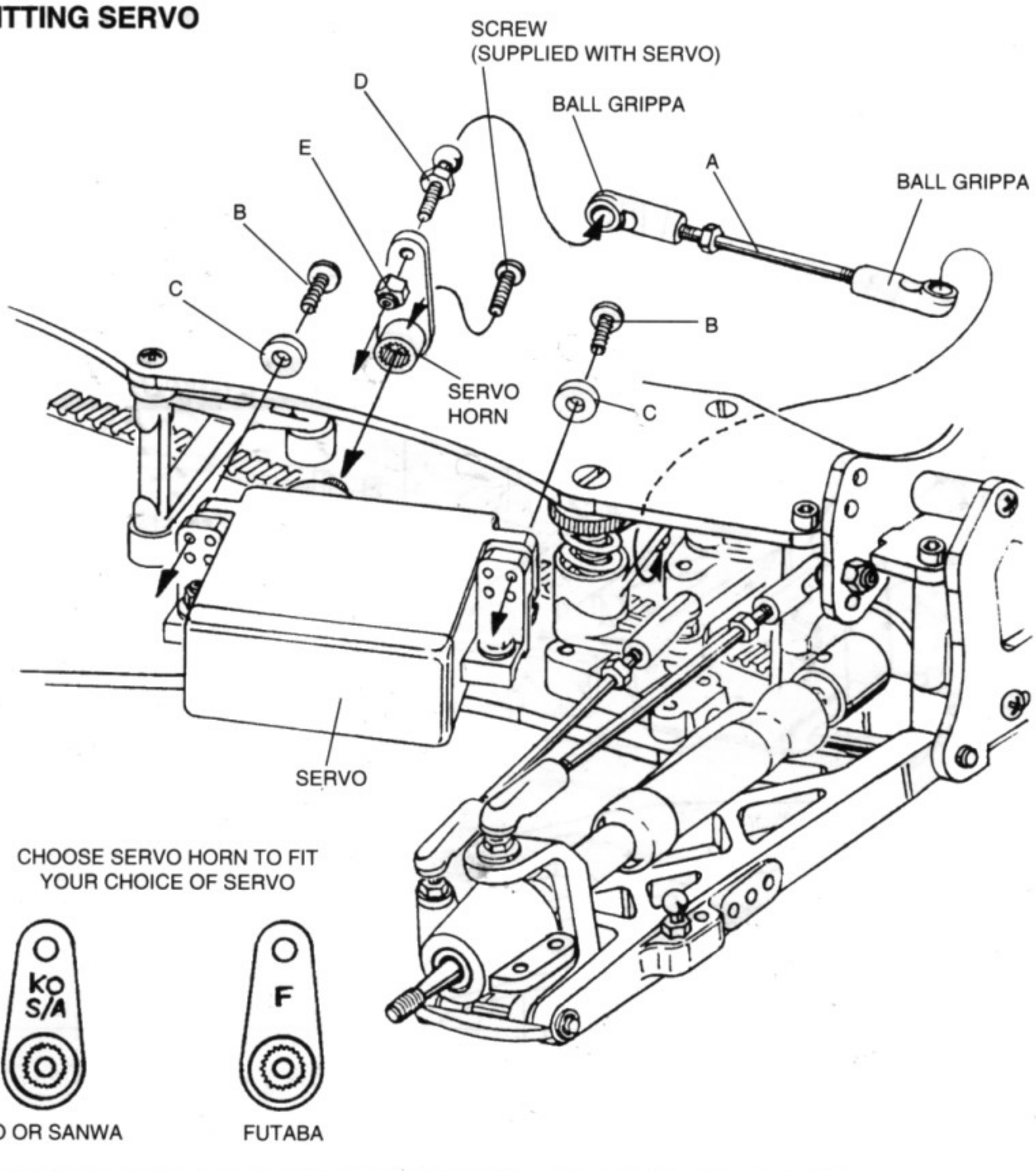
No4 x 1/4" SELFTAP PANHEAD SCREW



CONSULT THE INDIVIDUAL INSTRUCTION SHEETS SUPPLIED WITH YOUR OWN RADIO CONTROL EQUIPMENT AND SPEED CONTROLLER WHEN FITTING INTO CAR



FITTING SERVO

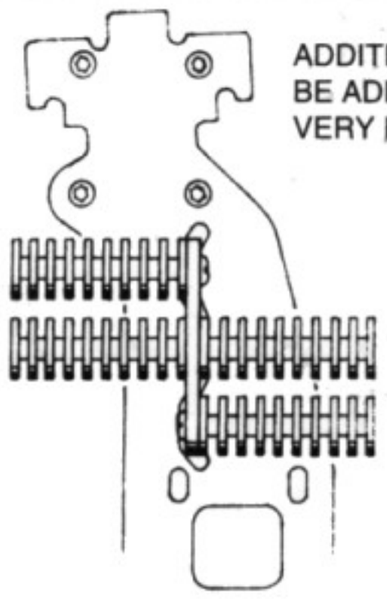


CHOOSE SERVO HORN TO FIT
YOUR CHOICE OF SERVO

KO OR SANWA

FUTABA

FITTING MOTOR



ADDITIONAL HEATSINKS CAN
BE ADDED IF RUNNING CAR IN
VERY HOT CONDITIONS

GEAR - PINION MESH

ENSURE THERE IS A SMALL AMOUNT OF
PLAY BETWEEN GEARS TO REDUCE DRAG

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NEW CAT 2000 E.C.
THE NEXT GENERATION

FITTING ELECTRICS

BAG 7

HARDWARE

A X1
39mm TURNBUCKLE

B X2
No4 x 3/8" SELFTAP PANHEAD SCRE

C X2
1.6mm THICK NYLON WASHER

D X1
BALL STUD SHORT

E X1
M3 NYLOC NUT

F X1
STEPPED WASHER

G X2
M3 x 8mm BUTTONHEAD SCREW

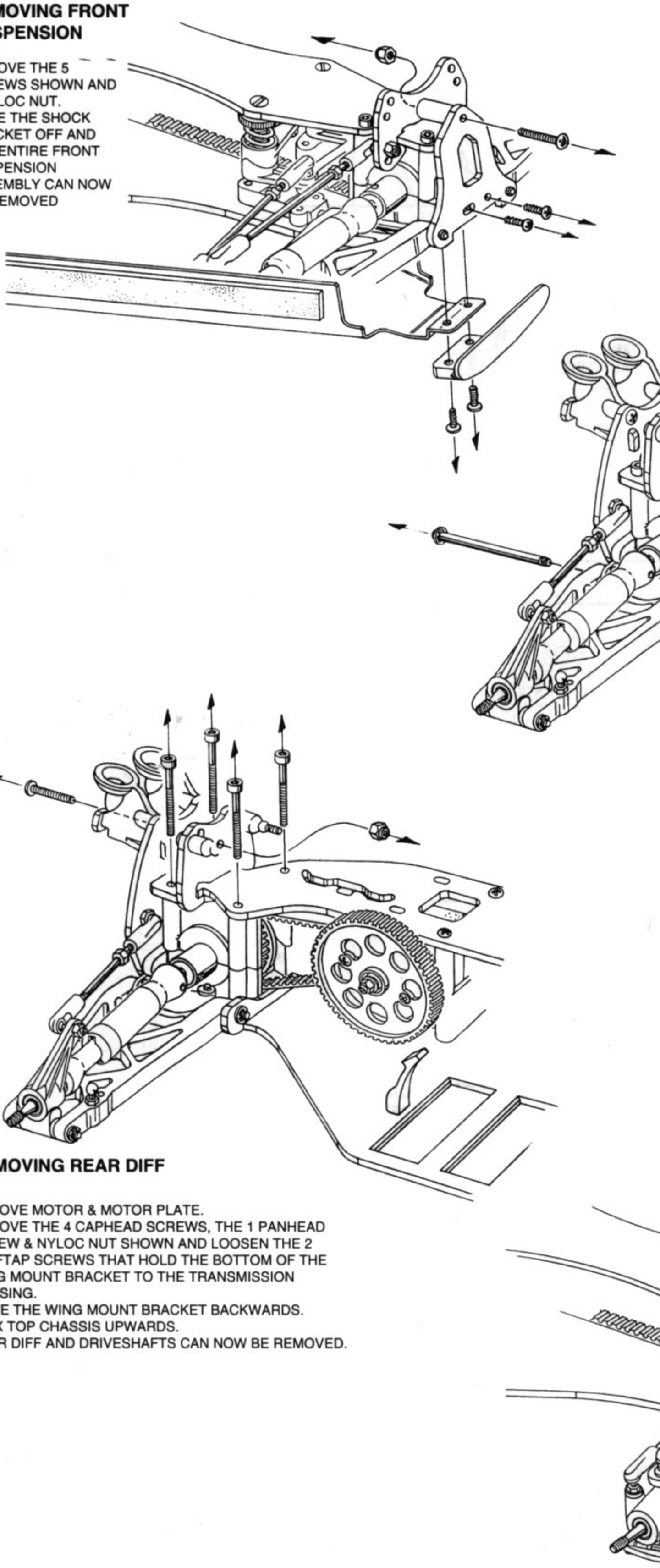
EC

H X2
M3 x 10mm BUTTONHEAD SCREW

I X2
M3 x 8mm PANHEAD SCREW

REMOVING FRONT SUSPENSION

REMOVE THE 5 SCREWS SHOWN AND 1 NYLOC NUT.
SLIDE THE SHOCK BRACKET OFF AND THE ENTIRE FRONT SUSPENSION ASSEMBLY CAN NOW BE REMOVED



REMOVING REAR SUSPENSION

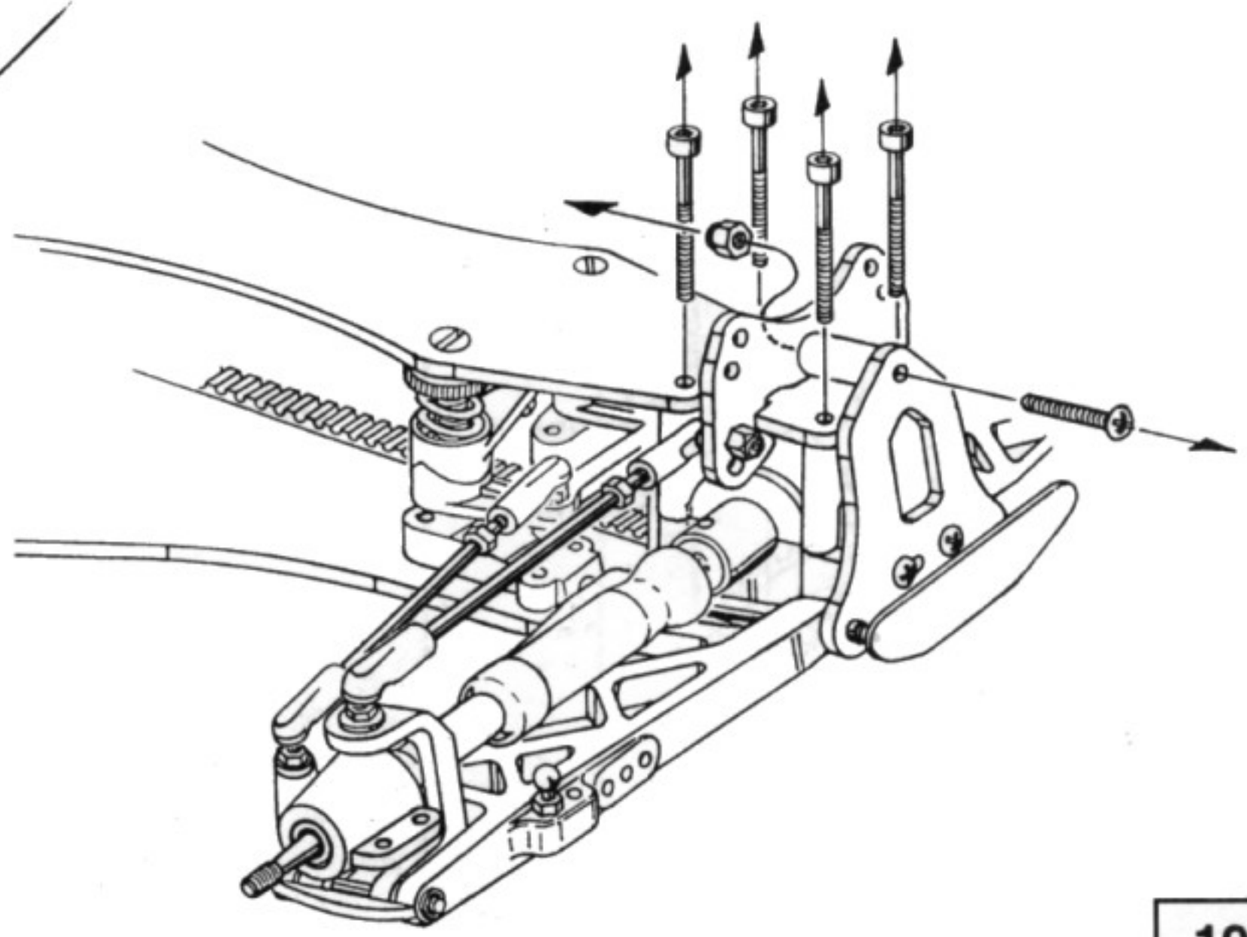
REMOVE THE FRONT "E' CLIP AND SLIDE OUT PIVOT PIN.
THE REAR WISHBONE WILL NOW BE FREE, RETAINED ONLY BY THE BALL GRIPPA

REMOVING REAR DIFF

REMOVE MOTOR & MOTOR PLATE.
REMOVE THE 4 CAPHEAD SCREWS, THE 1 PANHEAD SCREW & NYLOC NUT SHOWN AND LOOSEN THE 2 SELFTAP SCREWS THAT HOLD THE BOTTOM OF THE WING MOUNT BRACKET TO THE TRANSMISSION HOUSING.
MOVE THE WING MOUNT BRACKET BACKWARDS.
FLEX TOP CHASSIS UPWARDS.
REAR DIFF AND DRIVESHAFTS CAN NOW BE REMOVED.

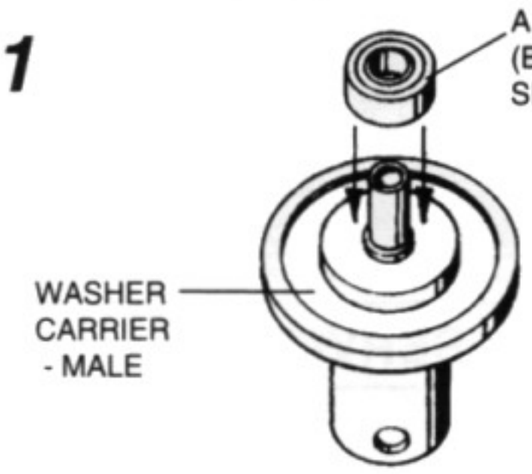
REMOVING FRONT DIFF

REMOVE THE 4 CAPHEAD SCREWS AND THE 1 PANHEAD SCREW & NYLOC NUT AS SHOWN.
MOVE THE FRONT SHOCK BRACKET FORWARDS.
FLEX TOP CHASSIS UPWARDS.
FRONT DIFF & DRIVESHAFTS CAN NOW BE REMOVED.

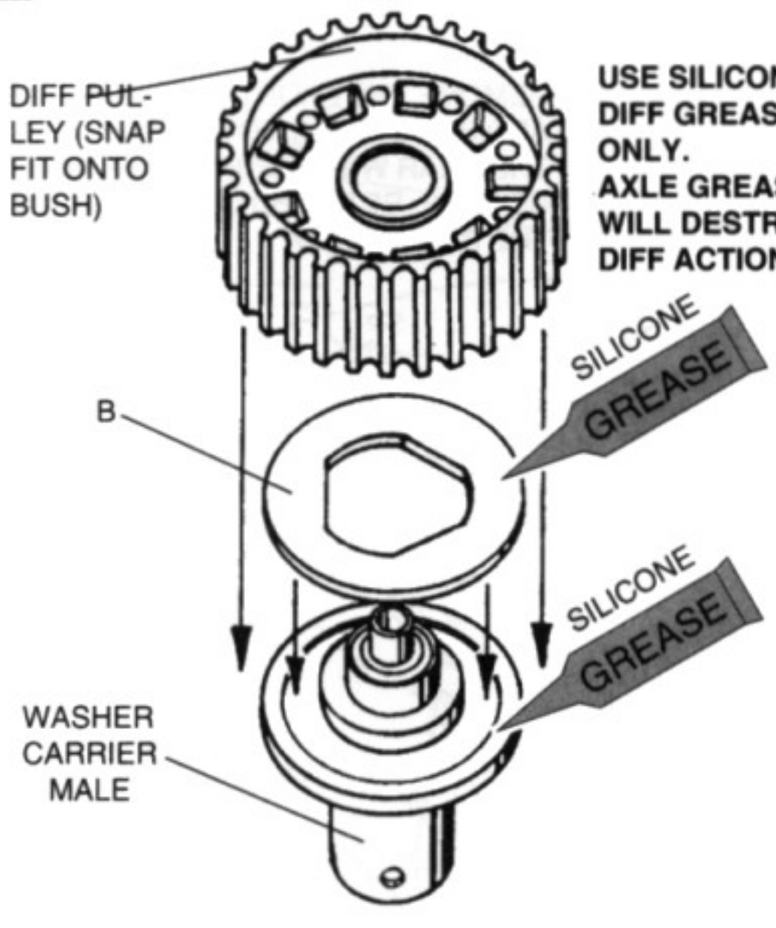


THE FOLLOWING STEPS SHOW THE CORRECT METHOD FOR BUILDING & SETTING UP YOUR DIFFS

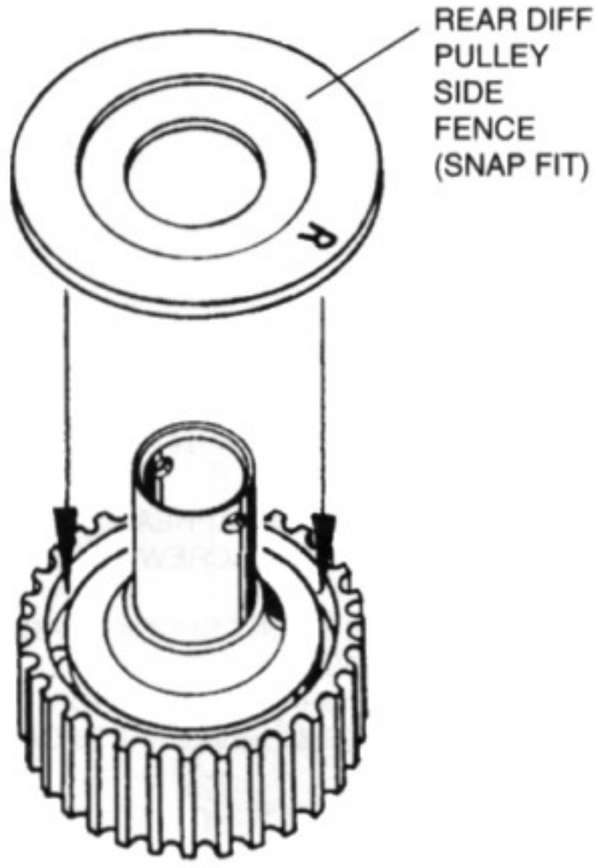
1



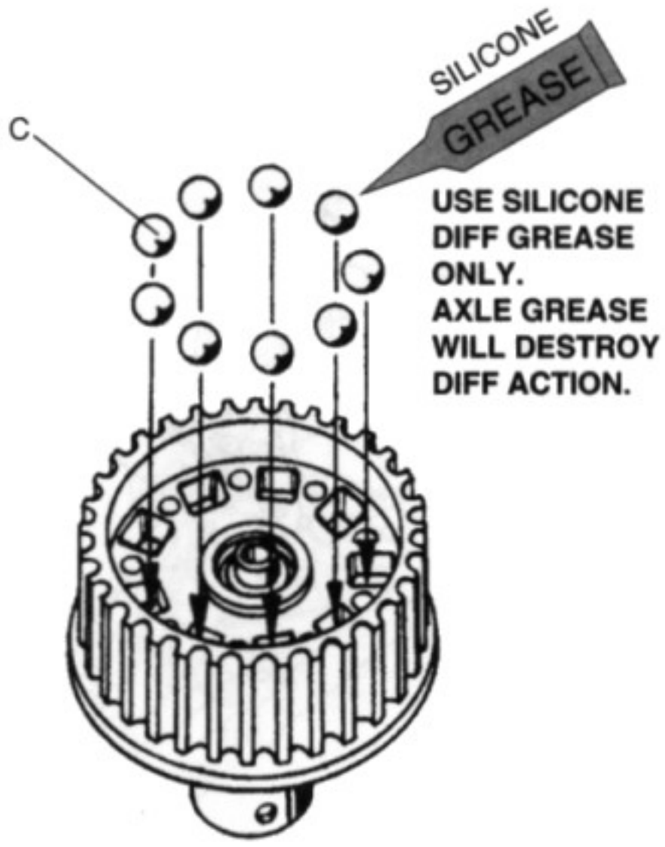
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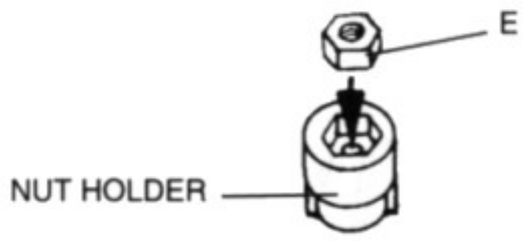
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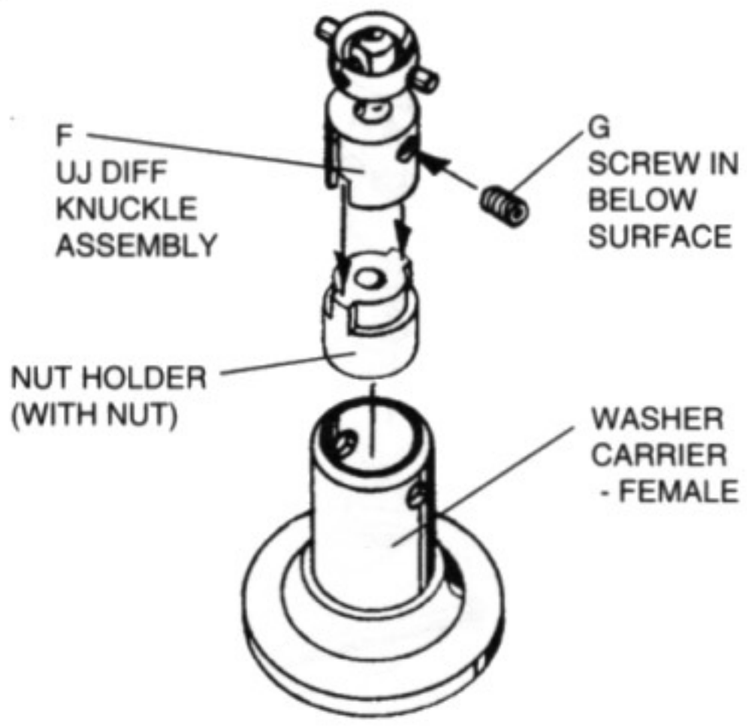
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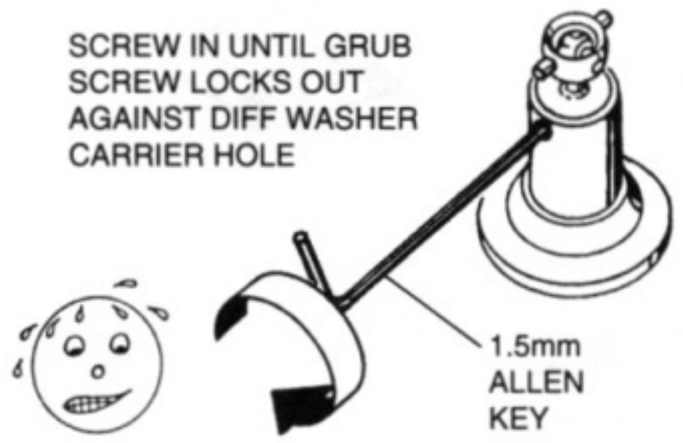
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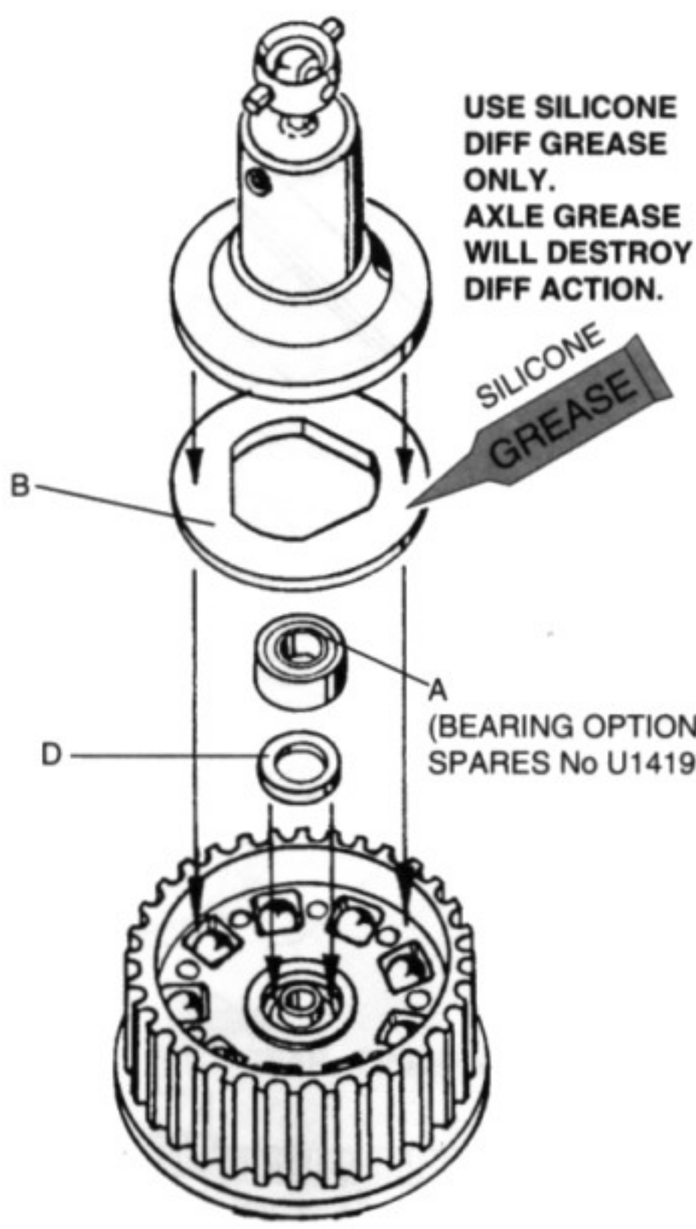
6



7



8



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NEW CAT 2000 E.C.

THE NEXT GENERATION

DIFF SERVICING

HARDWARE

A X4
4x8x2mm BUSH

B X4
TRILOBE DIFF WASHER

C X18
4mm DIA DIFF BALL

D X2
DIFF SPACER

E X1
M3 NUT

F X4
UJ KNUCKLE ASSEMBLY

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NEW CAT 2000 E.C.

THE NEXT GENERATION

DIFF SERVICING

HARDWARE

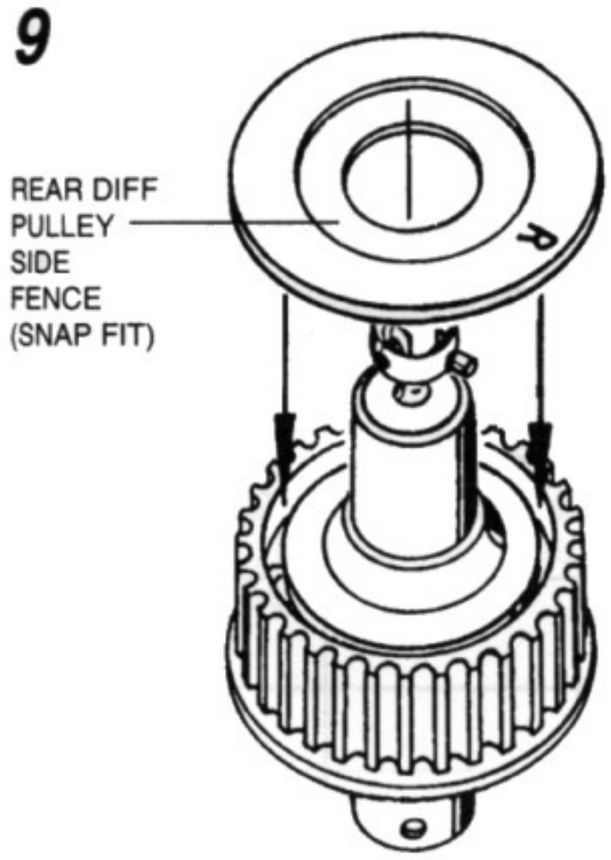
A — X8
DISC SPRING

B — X2
DIFF SCREW

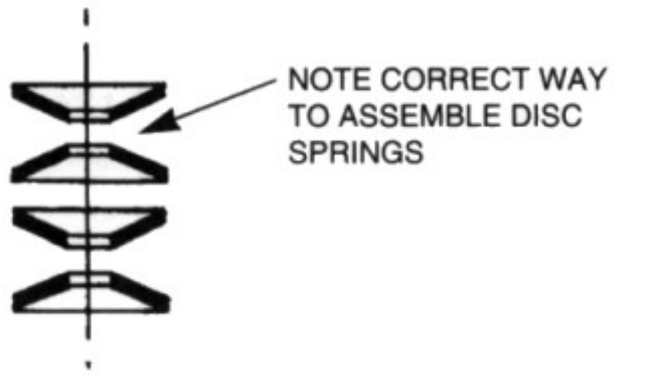
C — X2
UJ KNUCKLE ASSEMBLY

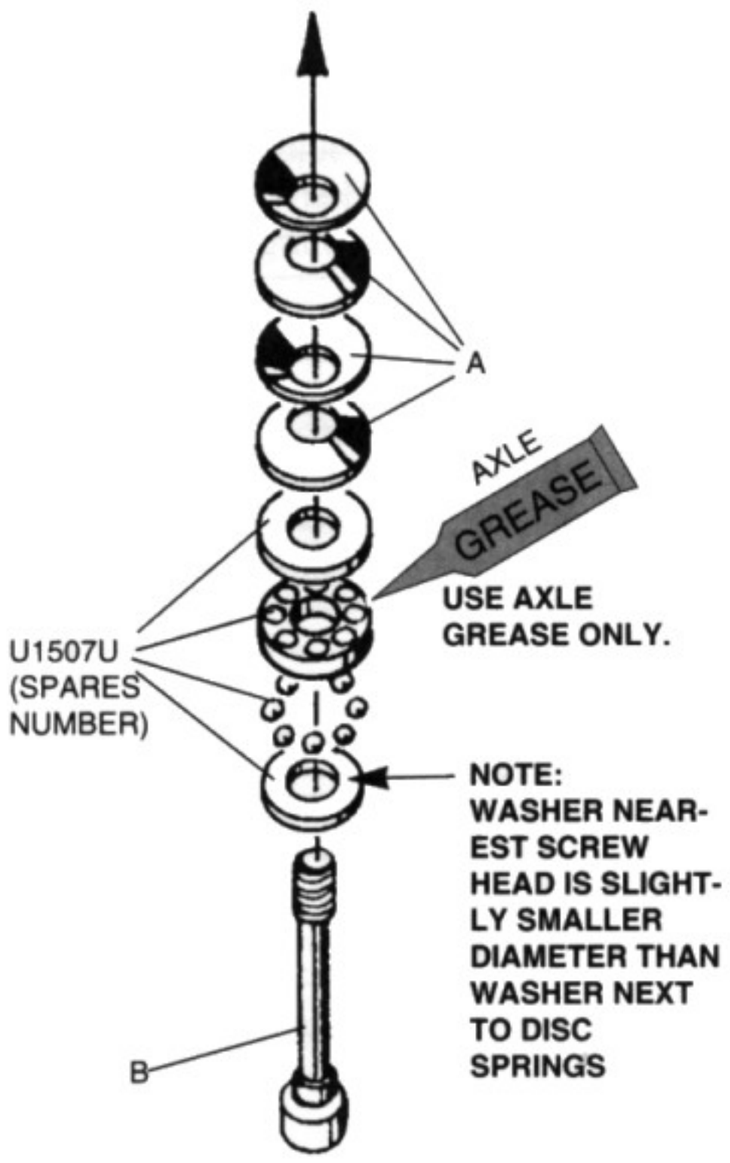
D — X2
M3 x 6mm GRUB SCREW

9

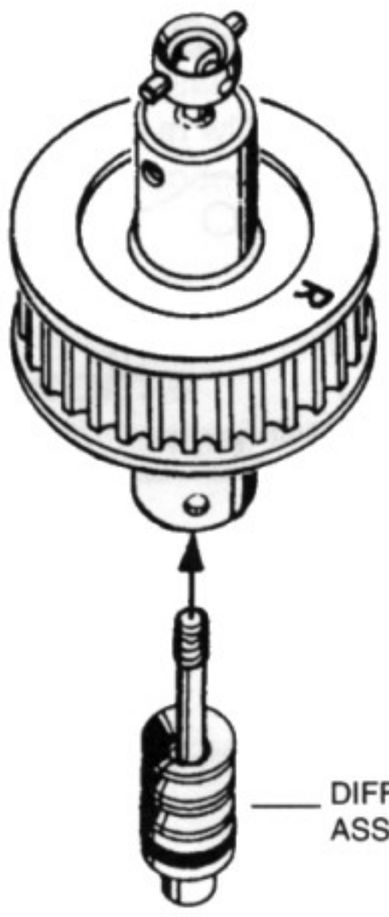


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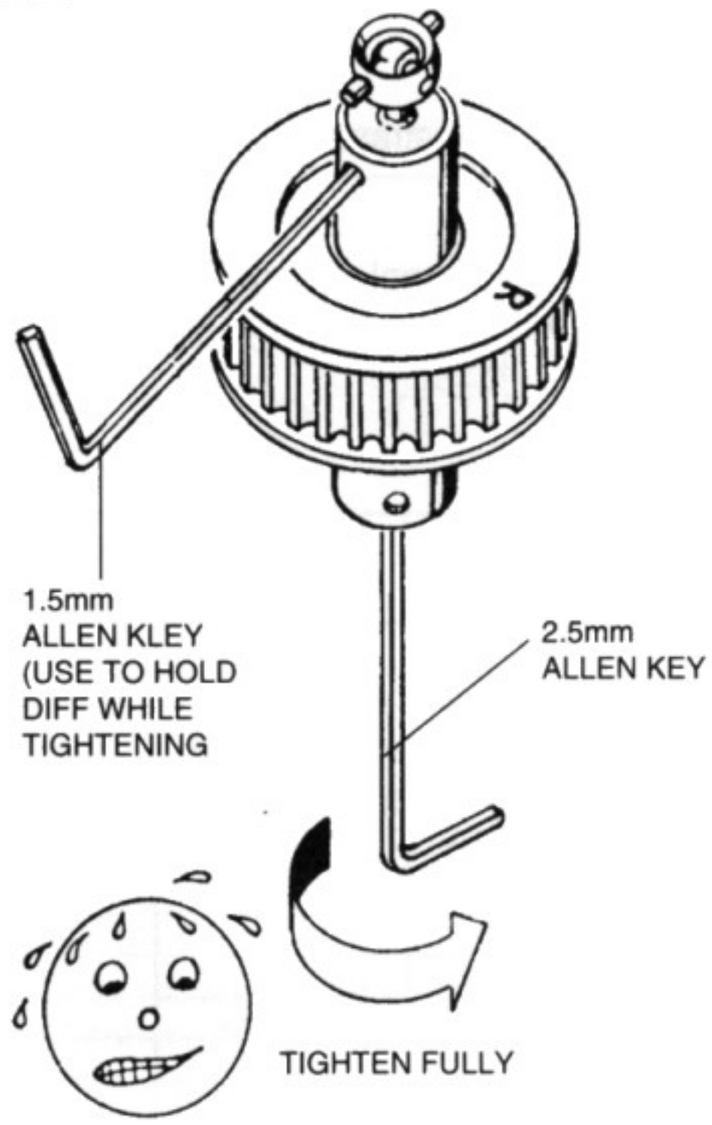




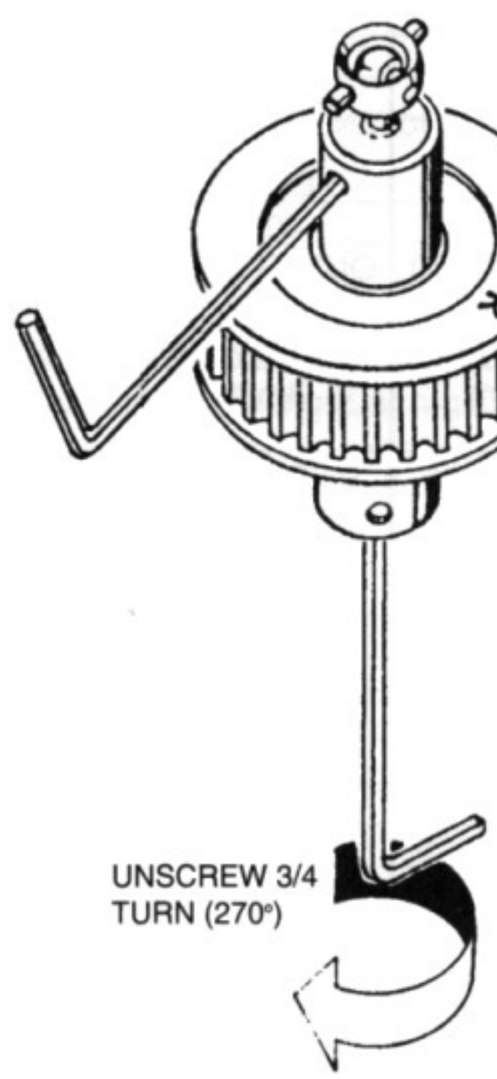
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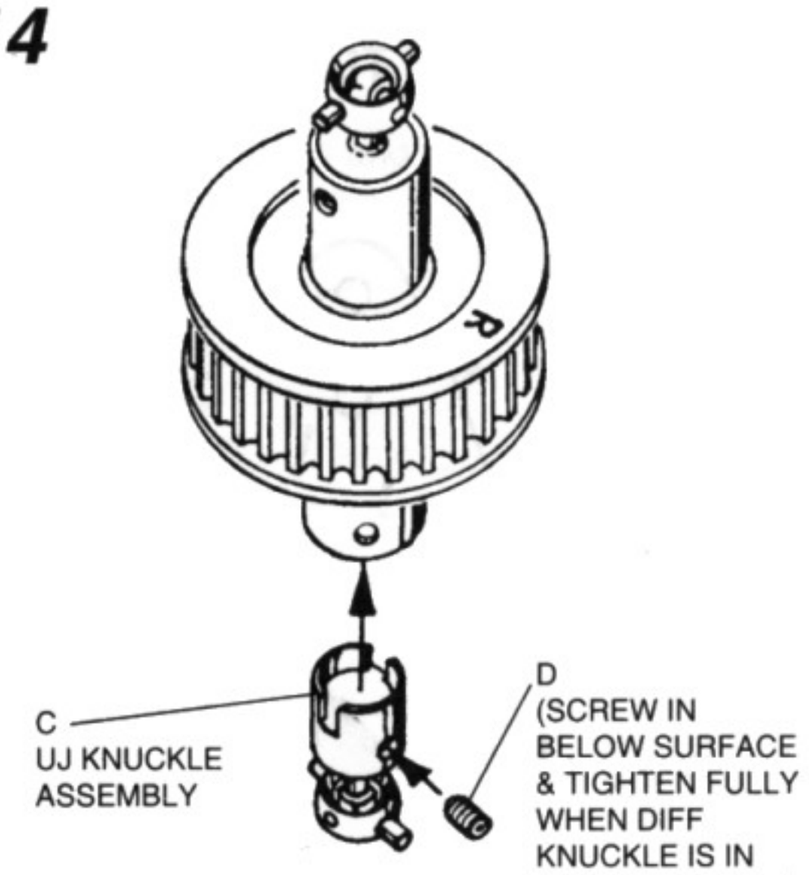
12



13



14



ASSEMBLY OF FRONT DIFF IS THE SAME BUT USES FRONT DIFF PULLEY FENCES (MARKED 'F')

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NEW CAT 2000 E.C.

THE NEXT GENERATION

TRACK SETTINGS

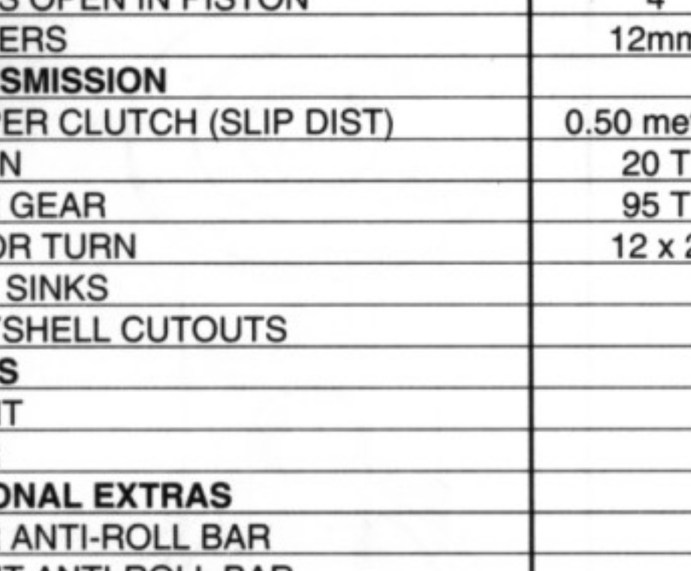
The table below shows set ups for certain types of track.
Use these as starting points.
Pages 22, 23, 24 and 25 explain in detail how each adjustment affects the cars handling. Use these steps for fine tuning.

On the back cover is a set up sheet which can be photocopied and used to build up a reference record of track conditions and track settings.

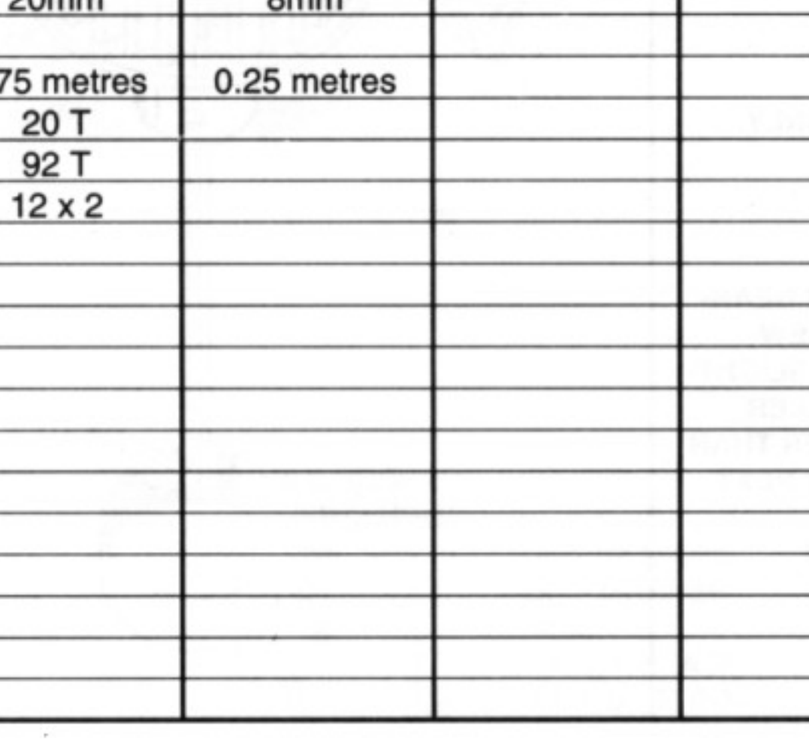
ADJUSTMENT	GRASS TRACK GOOD GRIP	CLAY-DIRT TRACK SLIPPERY	CARPET RACING				
FRONT SUSPENSION							
FRONT CAMBER	0°	-1°	-1°				
FRONT CASTOR	0°	+5°	+5°				
BUMP STEER SPACER	1.6mm	8mm	8mm				
FRONT TOE-IN	STRAIGHT	STRAIGHT	STRAIGHT				
FRONT RAKE ANGLE	12°	12°	12°				
TOP LINK POSITION	A	A	B				
SHOCK ABSORBERS - FRONT							
SPRINGS	YELLOW	YELLOW	GREY				
OIL	30W	30W	40W				
SHOCK POSITION - WISHBONE	OUTER (No2)	OUTER (No2)	OUTER (No2)				
SHOCK POSITION - TOP	2	1	1				
HOLES OPEN IN PISTON	4	4	4				
SPACERS	8mm	10mm	8mm				
REAR SUSPENSION							
REAR CAMBER	-1°	-1°	-1°				
REAR TOE-IN	2°	3°	2°				
TOP LINK POSITION	A	A	A				
WHEELBASE	MED	SHORT	MED				
SHOCK ABSORBERS - REAR							
SPRINGS	YELLOW	WHITE	YELLOW				
OIL	30W	30W	40W				
SHOCK POSITION - WISHBONE	INNER (No1)	OUTER (No2)	OUTER (No2)				
SHOCK POSITION - TOP	2	2	2				
HOLES OPEN IN PISTON	4	4	4				
SPACERS	12mm	20mm	8mm				
TRANSMISSION							
SLIPPER CLUTCH (SLIP DIST)	0.50 metres	0.75 metres	0.25 metres				
PINION	20 T	20 T					
SPUR GEAR	95 T	92 T					
MOTOR TURN	12 x 2	12 x 2					
HEAT SINKS							
BODYSHELL CUTOUTS							
TYRES							
FRONT							
REAR							
OPTIONAL EXTRAS							
REAR ANTI-ROLL BAR							
FRONT ANTI-ROLL BAR							

TYRES: F = FOAM INSERT

FRONT SHOCK BRACKET



REAR TOP LINK BRACKET

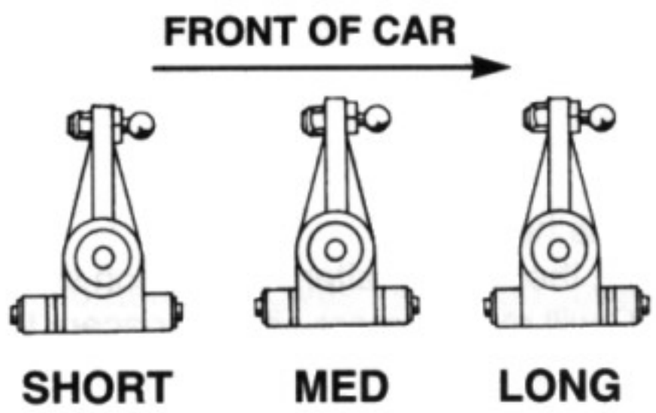


REAR SHOCK BRACKET



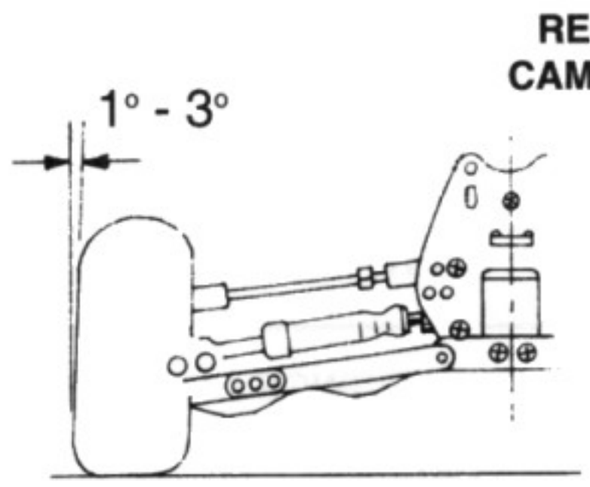
1 Make sure screws are tight, recheck after each race.

2 **WHEELBASE**
The cars wheelbase can be altered by moving the washers that sit between the rear hub carrier and the wishbone.
There are 3 possible settings.
Generally the shorter wheelbase gives more rear traction, a longer wheelbase improves steering response.

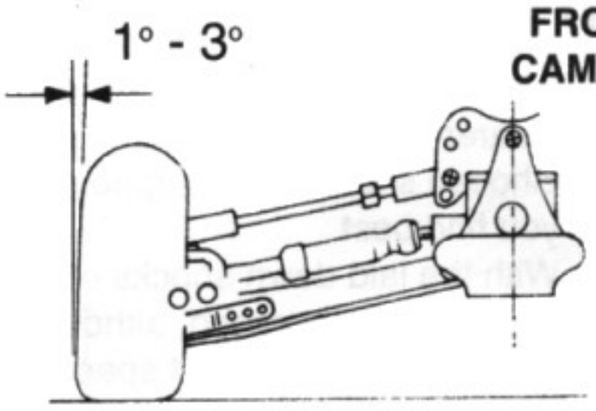


3 **DIFF**
If the transmission is correctly built you should hear a clicking sound when you spin the front wheels. If you don't, check layshaft assembly for free movement of oneway dog. If the differentials are correctly built as in the transmission steps they should not need adjusting during racing. Any slip adjustment should be done on the slipper clutch.
DO NOT LOOSEN THE THE DIFF TO ACHIEVE SLIP.
During maintenance when cleaning diffs be careful to reassemble the correct way.
If diff does become loose (noticeable by a 'squark' coming from the car when accelerating from standstill) tighten by following steps in Transmission section.

4 **REAR CAMBER**
The rear wheels should be set at negative camber. This means that the top of the wheels lean inward. Adjustment is carried out by turning the top link. The righthand thread of the link is nearest the hex. Adjust to be the same both sides.
Too much negative camber and you will have begin to have less traction.

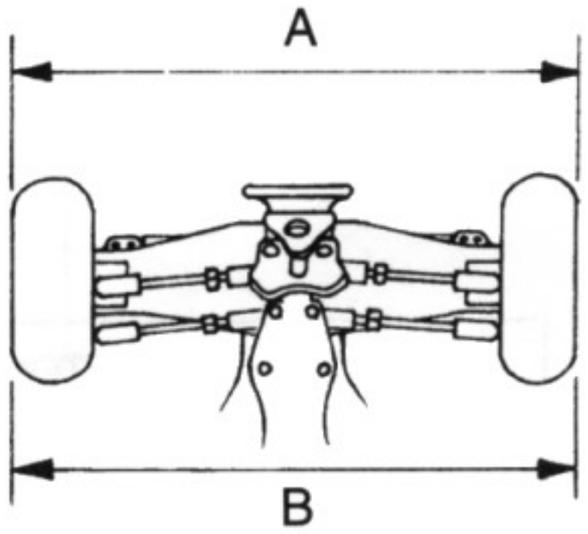


5 **FRONT CAMBER**
The front wheels should be set at negative camber. Adjust to be the same both sides.
Generally the more negative camber, the more steering you will get at high and medium speeds. Too much negative camber and you will begin to have less steering.

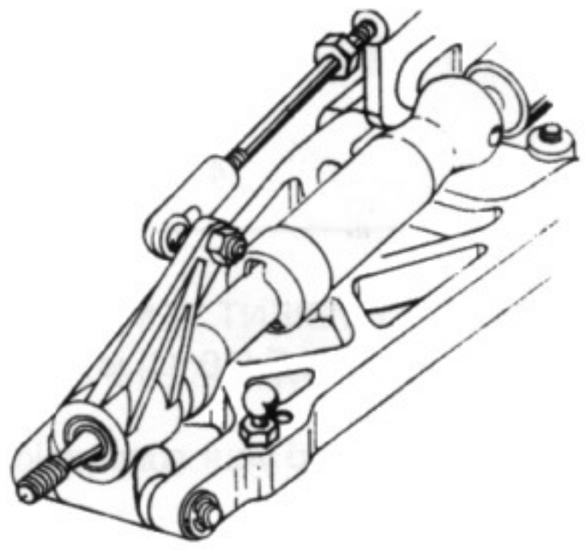


6 **FRONT TOE IN**
The front track rods are adjustable, similar to the suspension top links. Set the front wheels to be parallel to each other when pointing straight ahead. If conditions are slippery add 1 - 2 deg toe-in, this will make the car steer a little less. Toe-out will give more steering at low speed, but may make the car more unstable on corner exit.

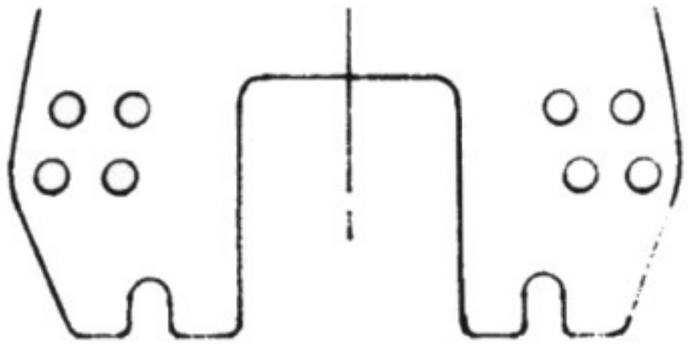
A greater than B = toe-out
A less than B = toe-in
A equal to B = parallel (standard setting)



7 **REAR TOE IN**
The rear hub carriers in the kit give 3° toe-in.
Others are available as spares in 0°, 1°, 2°, & 4°.
More rear toe in will give more power understeer and more stability and traction at the rear, recommended for tracks with low traction.



8 **ROLL CENTRE**
Altering the rear top link position changes the roll centre.



9 SUSPENSION TUNING

Use the set up sheets on page 22 as a starting point.
If your CAt 2000 EC requires further fine tuning these notes will give you additional information

RIDE HEIGHT
Fit spring spacers to set the required ride height.
Spring spacers only change ride height, they do not alter suspension stiffness.
Laid down shocks as on CAT 2000 EC will require more spring spacers than upright shock cars.

SPRING RATES
The spring rate controls suspension stiffness as follows:

SUSPENSION STIFFNESS	SPRING COLOUR	SPRING RATE
VERY HARD	BLACK	6
HARD	BLUE	4
MEDIUM	GREY	3
SOFT	YELLOW	2
VERY SOFT	WHITE	1.5

NOTE: SPRINGS ARE AVAILABLE IN THREE LENGTHS: S (Short), M (Medium), L (Long)

SUSPENSION TRAVEL
'Max Droop' is the 'ground clearance' measured with the suspension fully extended.
'Ride Height' is the 'ground clearance' when the normally laden car sits on the ground.
'Max Bump' is when the suspension bottoms out which may occur before the chassis bottoms out giving a small ground clearance, or the chassis may ground out first giving overtravel.
Choose shock mounting holes on the wishbone and shock brackets primarily to achieve the max droop ground clearance you find best.
With the laid down shocks of the CAT 2000 EC the shock angle changes are not very significant as far as suspension stiffness is concerned, although the more laid down positions will be slightly softer.
It may be helpful to put spacers on the shock rods in order to control the maximum bump position.

DAMPERS
Oil weight and piston holes control the damping effect as shown:

	RELATIVE DAMPER STIFFNESS			
	OIL WEIGHT			
No OF HOLES IN PISTON	10W	20W	30W	40W
1	3.5	5.5	7.7	11.4 (HARD)
2	3.3	5.1	7.0	11
3	2	3.6	5.9	8.2
4	1 (SOFT)	1.4	2.4	3.1

NOTE : AMBIENT TEMPERATURE AFFECTS DAMPER STIFFNESS
20w oil at 50° F (10° C) is approximately the same as 30w oil at 80° F (27° C)

Always record your suspension settings and results for future reference.

10 FRONT CASTOR - OPTIONAL EXTRA (SPEED SECRETS)

The front castor is the angle of the front king pin in relation to a perpendicular line to the ground. There are 4 different options. When running different castor angles and top link positions a washer(s) will need to be added below the steering trackrod ball stud at the wheel to eliminate bump steer. (Bump Steer Kit available - Speed Secrets)



-5° -8° 0° +5° +8°

MORE CASTOR LESS CASTOR

With more castor car is a little more stable coming out of corners and gives more high speed steering. With less castor the car has more low speed steering and sharper 'turn in'.

11 TYRES

The front and rear tyres in the kit will give safe predictable handling for most conditions. However, Schumacher CAT range of tyres offer a wide range of options to cover all extremes of operating conditions. The spikes on the tyres may be cut to adjust the handling.

12 GEAR RATIO CHART - FOR 5 MINUTE RACE USING 1700 mAh NICADS

PINION	SPUR GEAR	OVERALL RATIO	APPROX MOTOR WIND
28	86	6.14	27 T
28	89	6.36	
27	86	6.37	
27	89	6.59	
26	86	6.62	
26	89	6.85	
25	86	6.88	
25	89	7.12	20 T
25	92	7.36	
24	86	7.17	
24	89	7.42	19 T
24	92	7.67	
23	86	7.48	
23	89	7.74	
23	92	8.00	17 T
22	86	7.82	
22	89	8.09	
22	92	8.36	16 T
22	95	8.63	15 T
21	86	8.19	
21	89	8.48	
21	92	8.76	
21	95	9.05	

MILD MOTOR

PINION	SPUR GEAR	OVERALL RATIO	APPROX MOTOR WIND
20	86	8.60	
20	89	8.90	
20	92	9.20	15 T
20	95	9.50	
19	86	9.05	
19	89	9.37	
19	92	9.68	
19	95	10.00	14 T
18	89	9.89	
18	92	10.22	
18	95	10.55	
17	89	10.47	13 T
17	92	10.82	
17	95	11.18	
16	89	11.13	12 T
16	92	11.50	
16	95	11.86	
15	92	12.27	11 T
15	95	12.67	

HOT MOTOR

13 LUBRICATION

All bearings must be lubricated, especially during wet weather. Always remove bearings and clean after running in wet conditions. Plastic parts should NOT be lubricated. Only use silicone grease inside the differential and only use axle grease in the thrust races.

14 GENERAL

In general the car should understeer, - this means the front wheels slide more than the rear wheels during cornering. You can get this by cutting the spikes of the front tyres down. It helps to have two or three sets of front tyres with different levels of spikes to test for the best option.

Run the lowest ride height that track conditions allow - a low car always corners better than a high car. Use the softest damper settings that stop the wheels from bouncing. It is easy to over damp the car and cause bouncing at high speed.

NEW CAT 2000 E.C.
THE NEXT GENERATION

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SET UP SHEET
(circle the settings used)

DRIVER : **MEETING:**

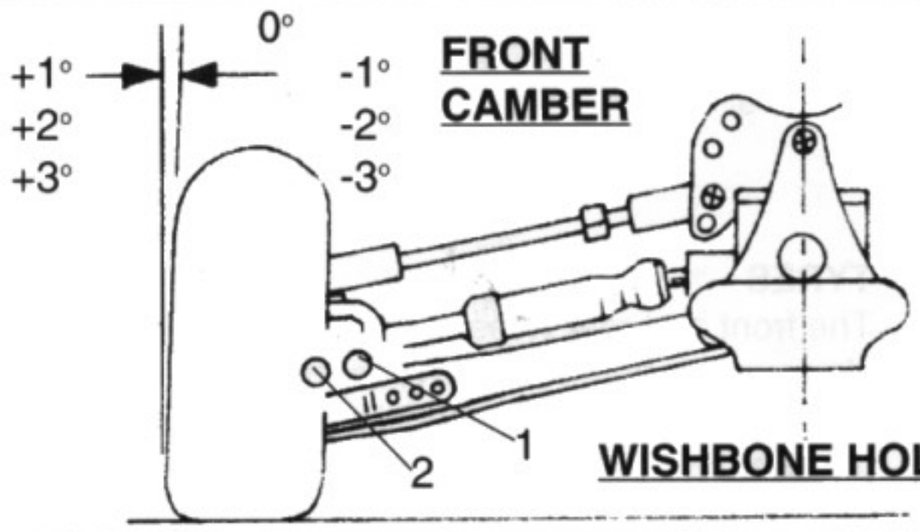
TRACK: **DATE:**

TRACK CONDITIONS:

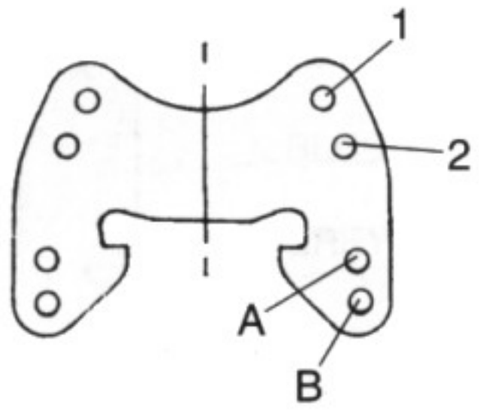
FRONT SUSPENSION

RAKE	10°	12°	20°				
CASTOR	0°	+5°	-5°	+8°	-8°		
TOE-IN	-1°	-2°	-3°	0°	+1°	+2°	+3°

FRONT CAMBER



FRONT SHOCK BRACKET

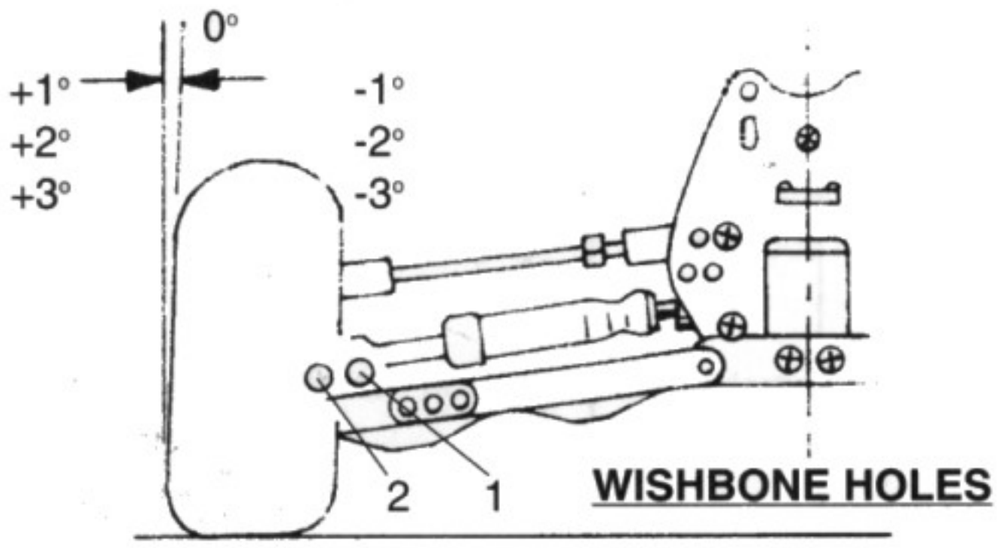


SHOCKS - FRONT								
OIL	10W	20W	25W	30W	35W	40W	45W	50W
HOLES OPEN	1	2	3	4				
VALVED	YES	NO						
SPRINGS	WHITE	YELLOW	GREY	BLUE	BLACK			
SPACERS		mm						

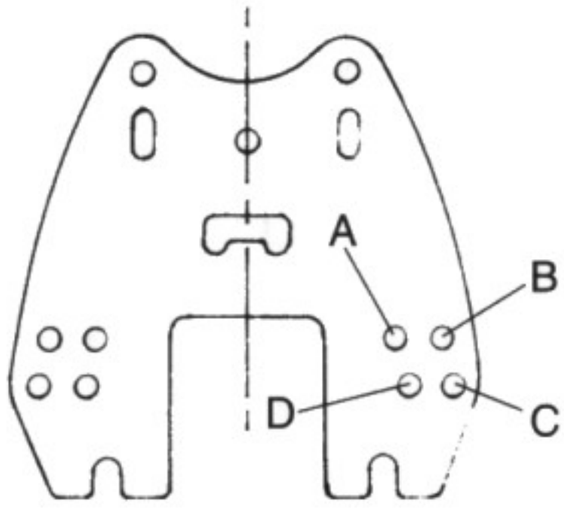
REAR SUSPENSION

TOE-IN	1°	2°	3°	4°

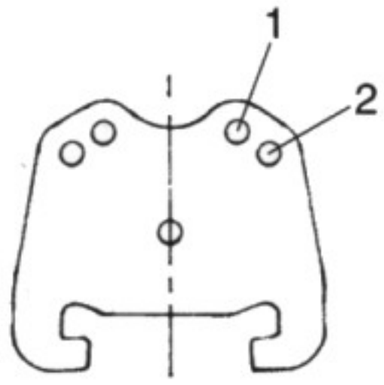
REAR CAMBER



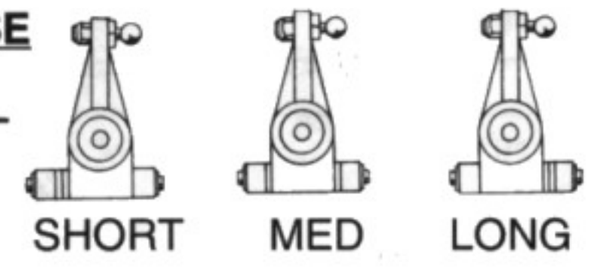
REAR TOP LINK



REAR SHOCK



WHEELBASE



SHOCKS - REAR								
OIL	10W	20W	25W	30W	35W	40W	45W	50W
HOLES OPEN	1	2	3	4				
VALVED	YES	NO						
SPRINGS	WHITE	YELLOW	GREY	BLUE	BLACK			
SPACERS		mm						

TRANSMISSION & CHASSIS

SPUR GEAR	86T	89T	92T	95T	98T			
PINION	15T	16T	17T	18T	19T	20T	21T	22T
HEATSINKS	1	2	3	4	5	OTHERS		
SLIPPER (SLIP DIST)	0.25m		0.50m		0.75m			
DRIVESHAFTS	ROLLER		PLAIN					

CELLS - TYPE .....

MOTOR TYPE / WIND ..... **SERVO** .....

RECEIVER ..... **SPEED CONTROLLER** .....

TYRES

FRONT U..... **FOAMS -** YES/NO **FRONT HEX DRIVES -** WIDE NARROW

REAR U..... **FOAMS -** YES/NO **REAR HEX DRIVES -** WIDE NARROW

BODYSHELL CUT OUTS SIDE DUCT OTHERS **WING TYPE** .....

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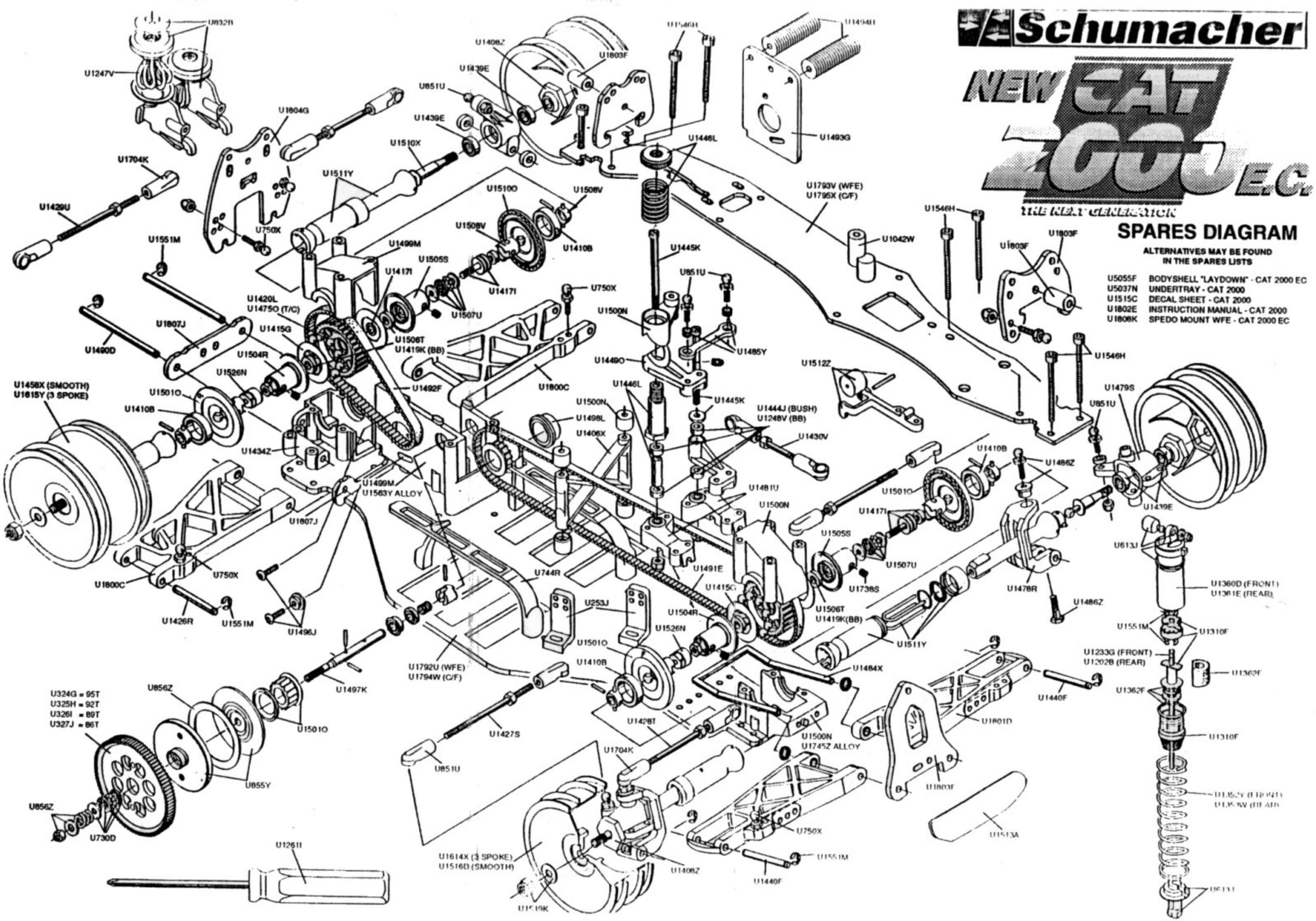
NEW CAT 2000 E.C.

THE NEXT GENERATION

SPARES DIAGRAM

ALTERNATIVES MAY BE FOUND IN THE SPARES LISTS

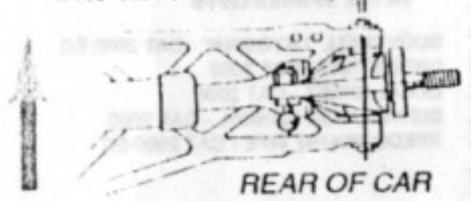
U5055F	BODYSHELL "LAYDOWN" - CAT 2000 EC
U5037N	UNDERTRAY - CAT 2000
U1515C	DECAL SHEET - CAT 2000
U1802E	INSTRUCTION MANUAL - CAT 2000
U1808K	SPEDO MOUNT WFE - CAT 2000 EC



1 FIT REAR SUSP

ASSEMBLE THE REAR WISHBONES & HUB CARRIERS AS CAT 2000 '94. ENSURE CAR HAS TOE-IN.

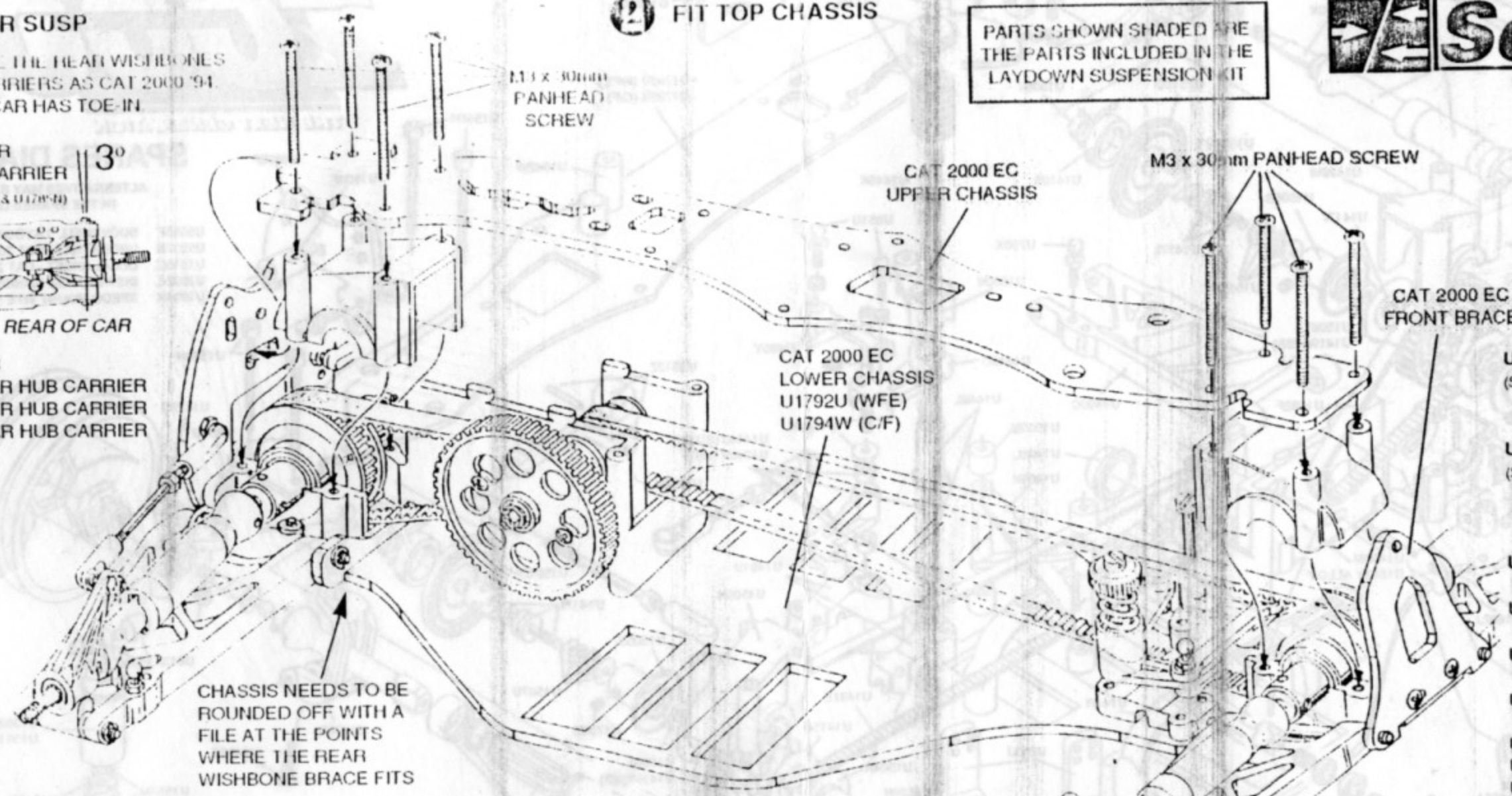
U1798A 3° REAR HUB CARRIER (supplied in U1784M & U1785N)



SPEED SECRETS

U1796Y 1° REAR HUB CARRIER
U1797Z 2° REAR HUB CARRIER
U1799B 4° REAR HUB CARRIER

2 FIT TOP CHASSIS



PARTS SHOWN SHADED ARE THE PARTS INCLUDED IN THE LAYDOWN SUSPENSION KIT

Schumacher

CAT 2000

the real challenge

U1784M (STEP 1) **CAT 2000 E.C. - REAR GEOMETRY SET** - FITS CAT 2000 '94
Includes new parallel pin rear wishbones, 3° hub carriers, and wide hex wheel drives.

U1785N (STEPS 1-5) **CAT 2000 E.C. - LAYDOWN SUSPENSION KIT** - FITS CAT 2000 '94
Includes new rear geometry set, Cat 2000 EC upper chassis, Cat 2000 EC front & rear shock brackets & front wishbones.

U1792U CAT 2000 E.C. LOWER CHASSIS - WFE
Includes both rear wishbones braces.

U1794W CAT 2000 E.C. LOWER CHASSIS - CARBON FIBRE: Includes WFE rear wishbones braces.

U1795X CAT 2000 E.C. UPPER CHASSIS - CARBON FIBRE

U5055F CAT 2000 E.C. "LAYDOWN" BODYSHELL.
Stylish low drag body, the finishing touch !

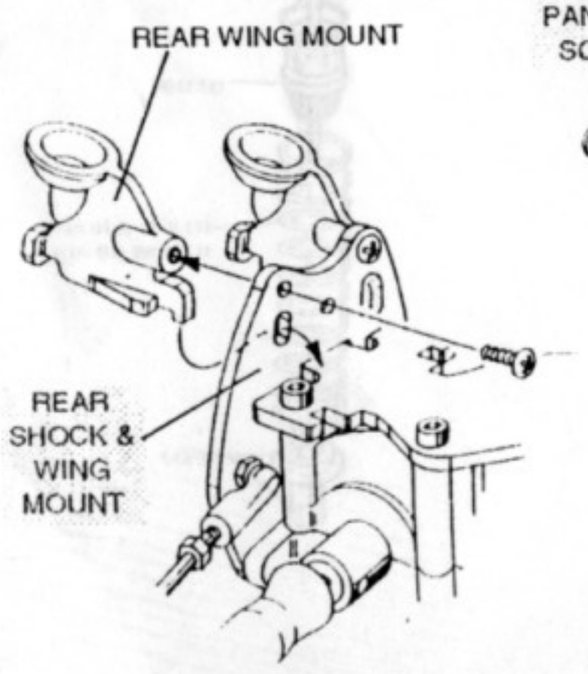
U1805H CAT 2000 E.C. - C/F Front shock mounts.

U1806I CAT 2000 E.C. - C/F Rear shock & wing mount

U1807J CAT 2000 E.C. - Alloy rear pivot braces.

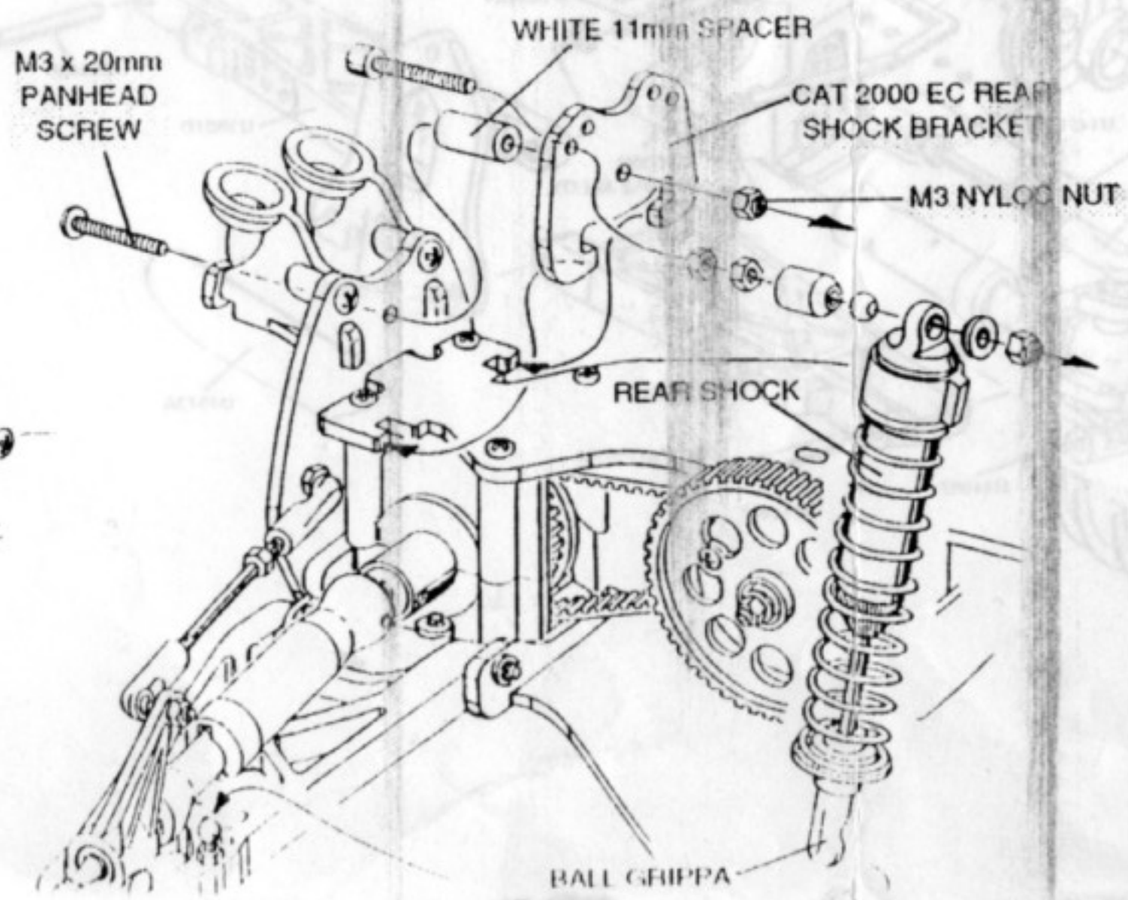
U1808K CAT 2000 E,C. - Speedo mounting plate.

3 FIT REAR WING BRACKETS



FIT SHOCKS AT TOP AS BEFORE - NOTE POSITION OF BALL STUD ON WISHBONES. REPEAT ASSEMBLY FOR

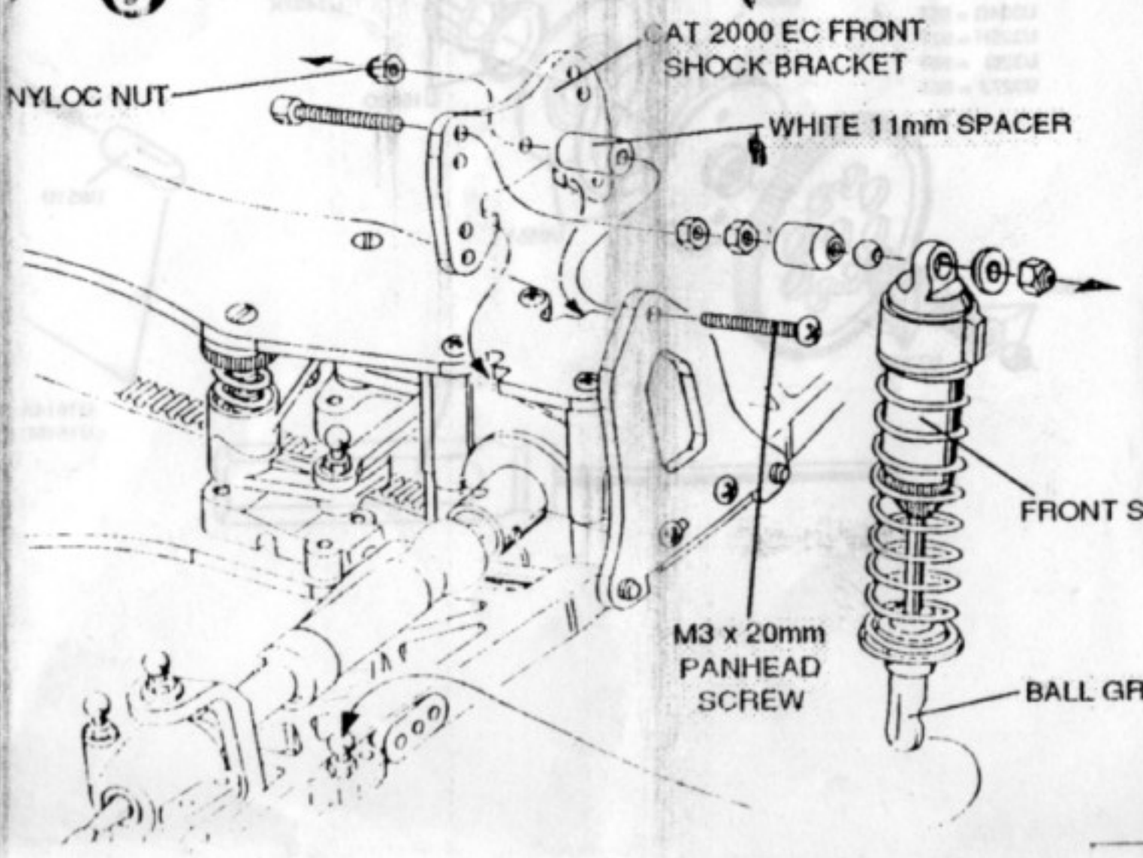
4 FIT REAR SHOCK BRACKET



NOTE:
SQUEEZE BALL GRIPPA SOCKETS WITH PLIERS UNTIL YOU GET FREE MOVEMENT OF FRONT & REAR SUSPENSION



5 FIT FRONT SHOCK BRACKET



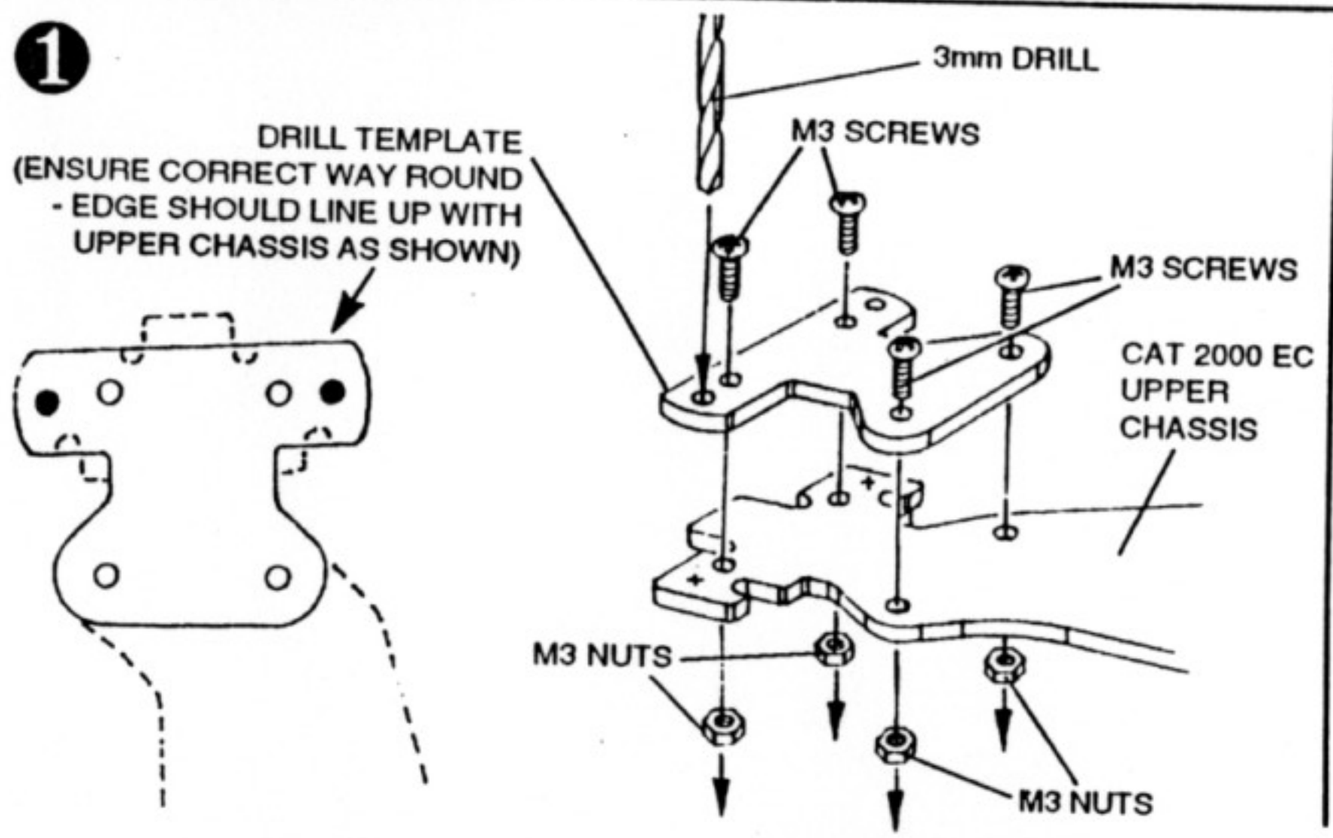
NEW CAT 2000 E.C.
THE NEXT GENERATION

Schumacher

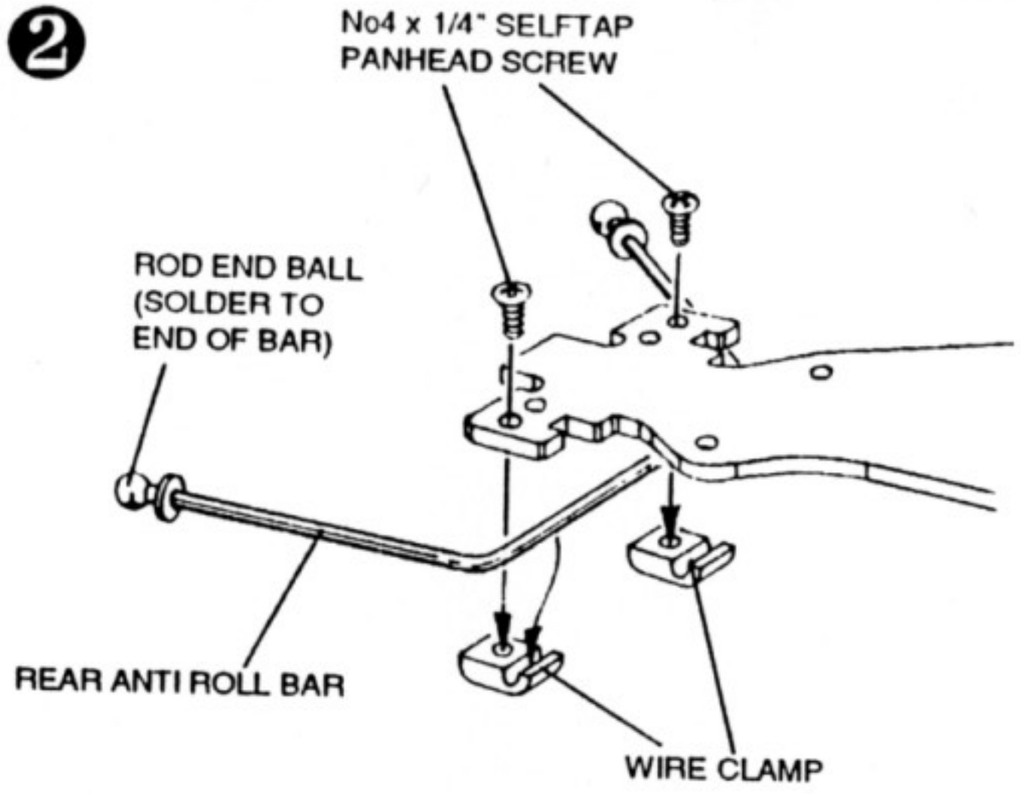
REAR ANTI ROLL BAR

S797

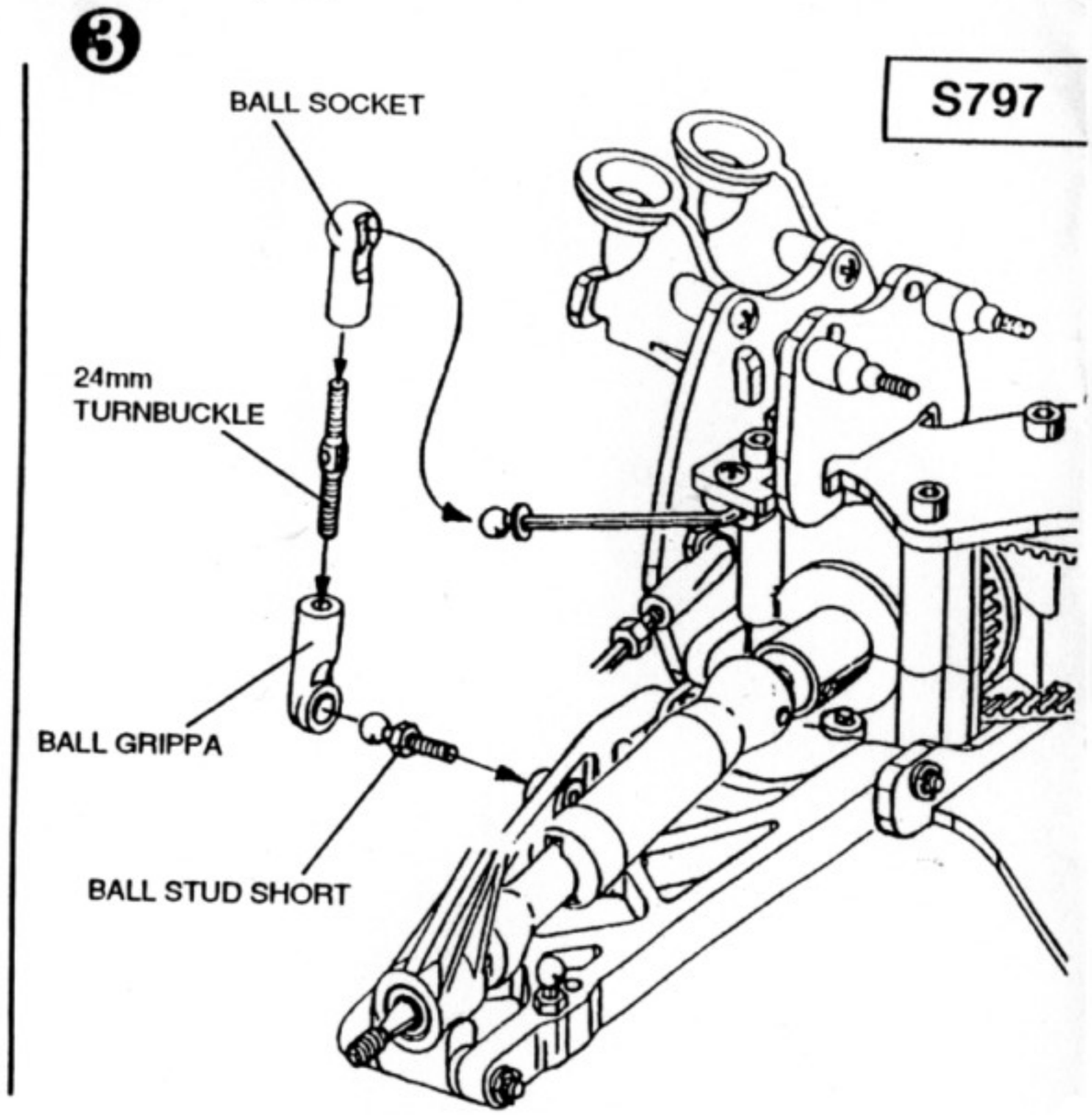
❶



❷



❸



NEW CAT 2000 E.C.
THE NEXT GENERATION

Schumacher

REAR ANTI ROLL BAR

S797

❶

DRILL TEMPLATE
(ENSURE CORRECT WAY ROUND - EDGE SHOULD LINE UP WITH UPPER CHASSIS AS SHOWN)
3mm DRILL
M3 SCREWS
M3 SCREWS
CAT 2000 EC UPPER CHASSIS
M3 NUTS
M3 NUTS

❷

No4 x 1/4" SELFTAP PANHEAD SCREW
ROD END BALL (SOLDER TO END OF BAR)
REAR ANTI ROLL BAR
WIRE CLAMP

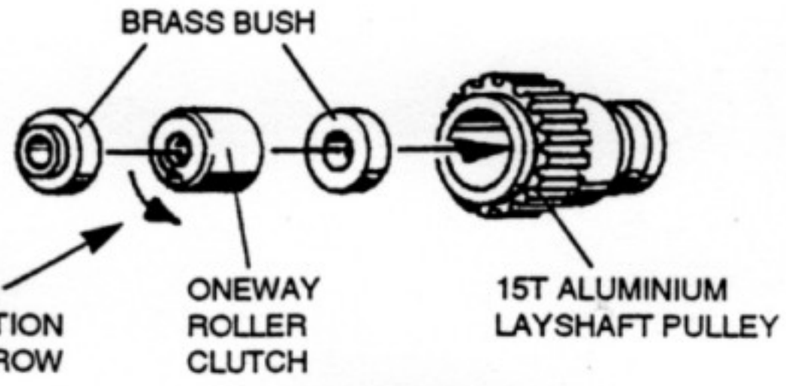
❸

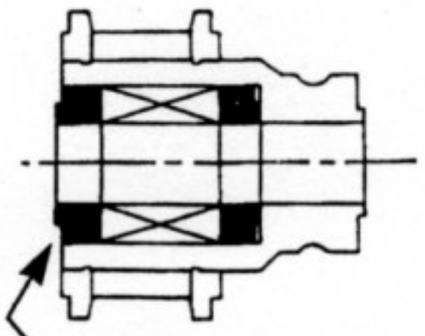
BALL SOCKET
24mm TURNBUCKLE
BALL GRIPPA
BALL STUD SHORT

Schumacher

ALUMINIUM ONEWAY ROLLER CLUTCH LAYSHAFT PULLEY

1 CAREFULLY PRESS THE BRASS BUSHES & ONEWAY ROLLER CLUTCH INTO THE LAYSHAFT PULLEY USING A SMALL VICE

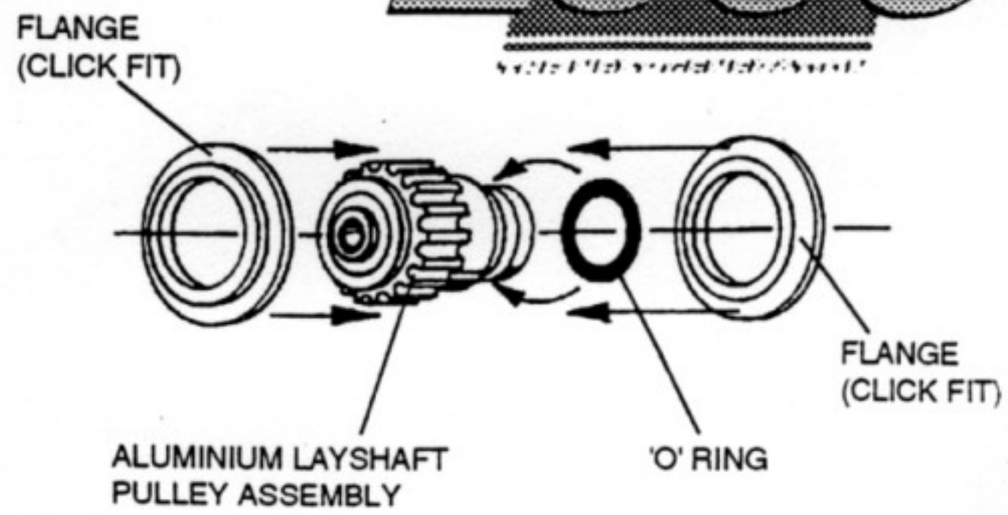




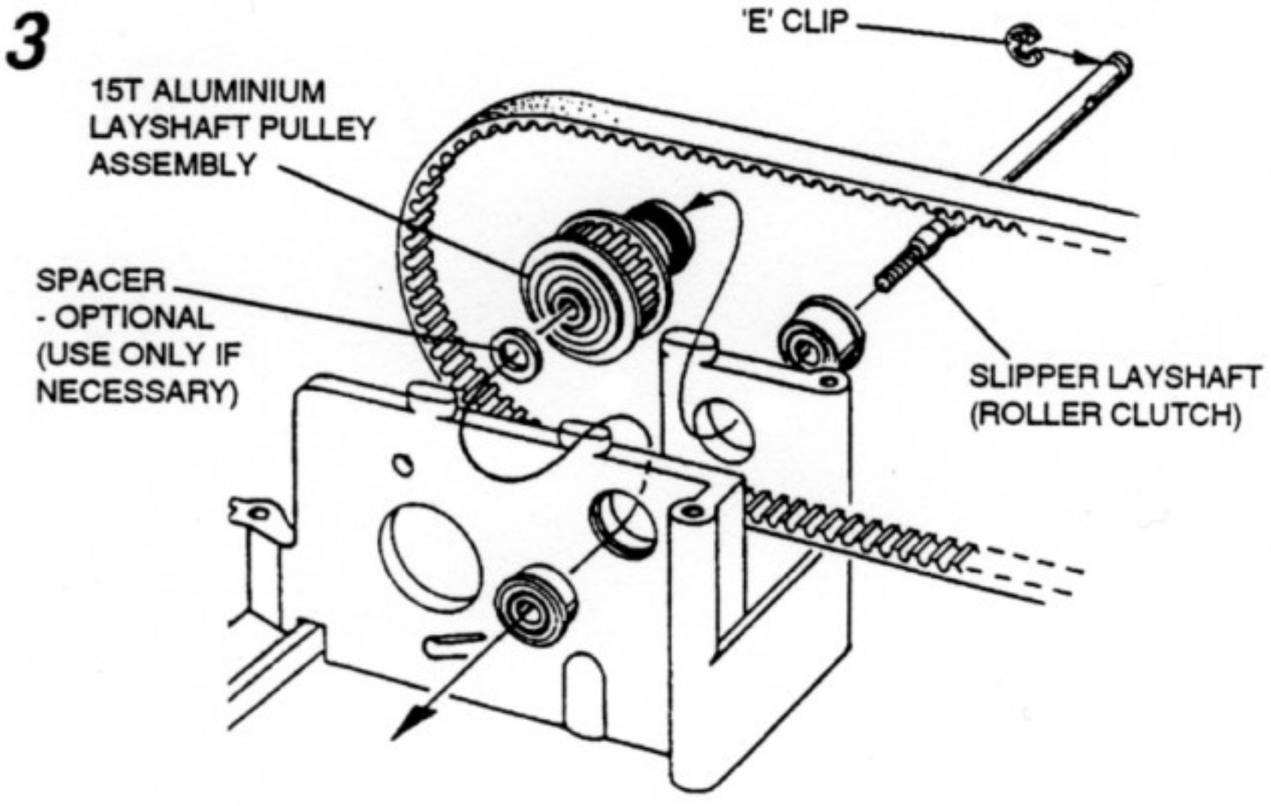
WARNING:

MAKE SURE THE ONEWAY ROLLER CLUTCH IS FITTED THE CORRECT WAY ROUND - **ONCE ITS IN YOU WON'T BE ABLE TO GET IT OUT**

2



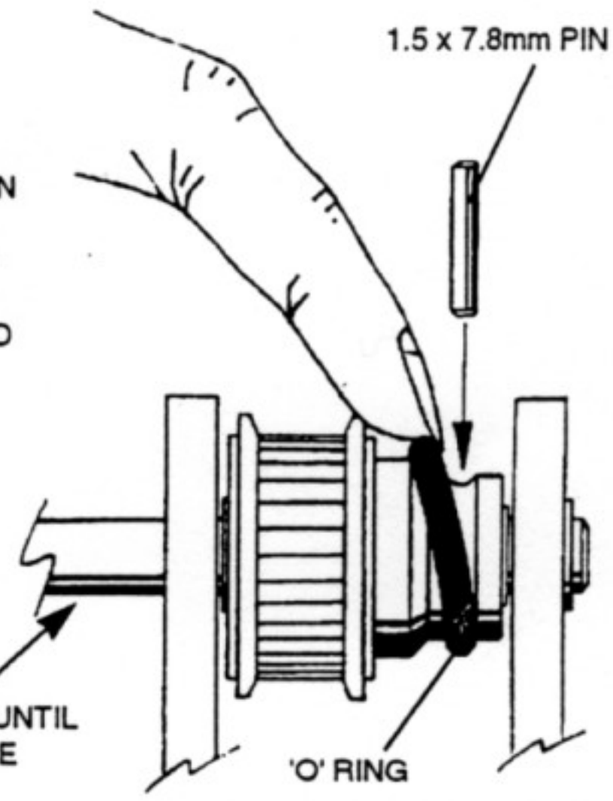
3



4

OPTIONAL

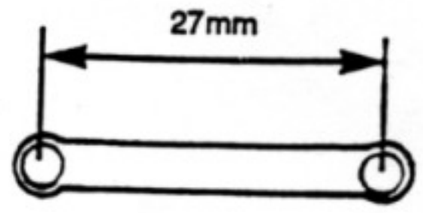
THE ONEWAY ROLLER CLUTCH CAN BE LOCKED OUT BY INSERTING A PIN AS SHOWN.
THIS IS MAINLY USED WHEN YOU WANT BRAKING ON THE FRONT WHEELS.

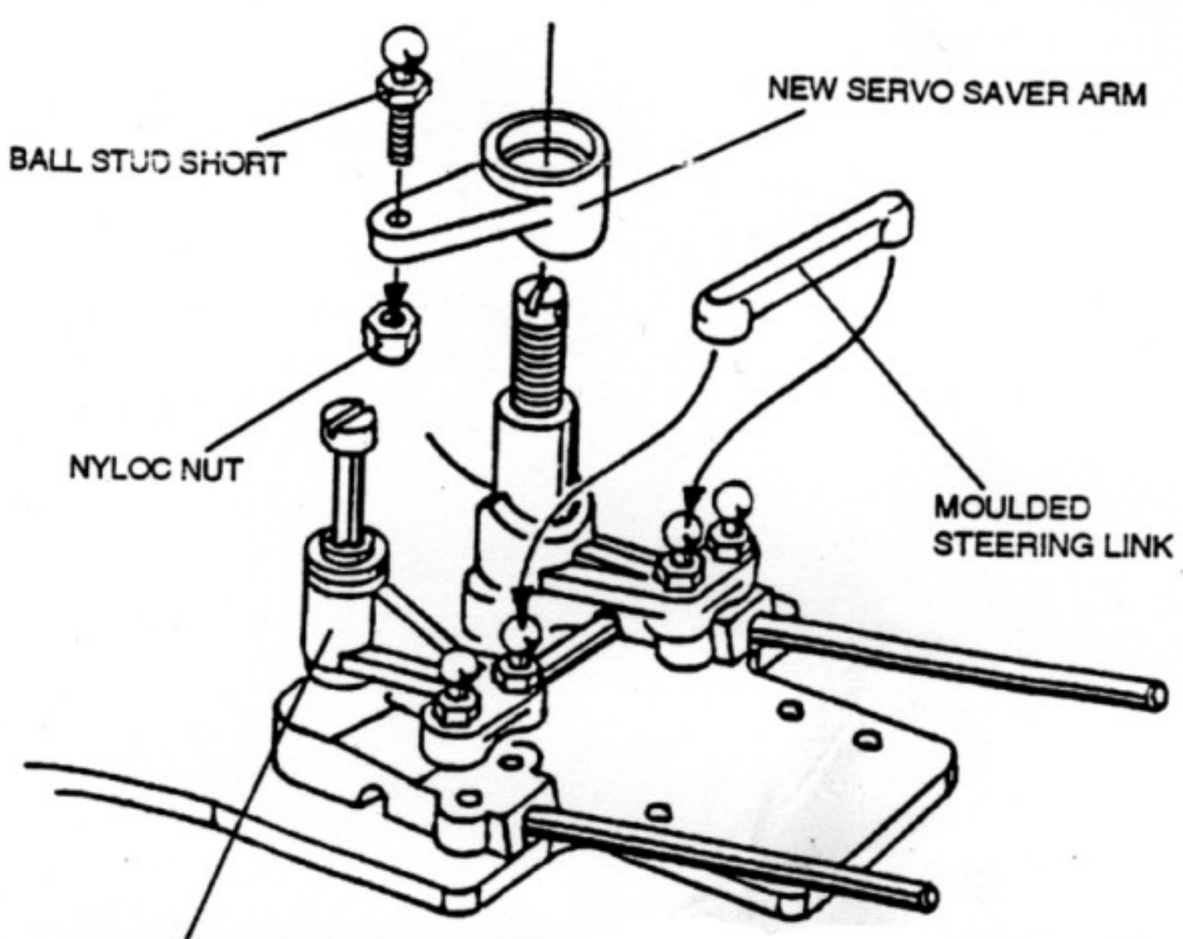


S819

Schumacher

U1840Q ACKERMANN STEERING MOD



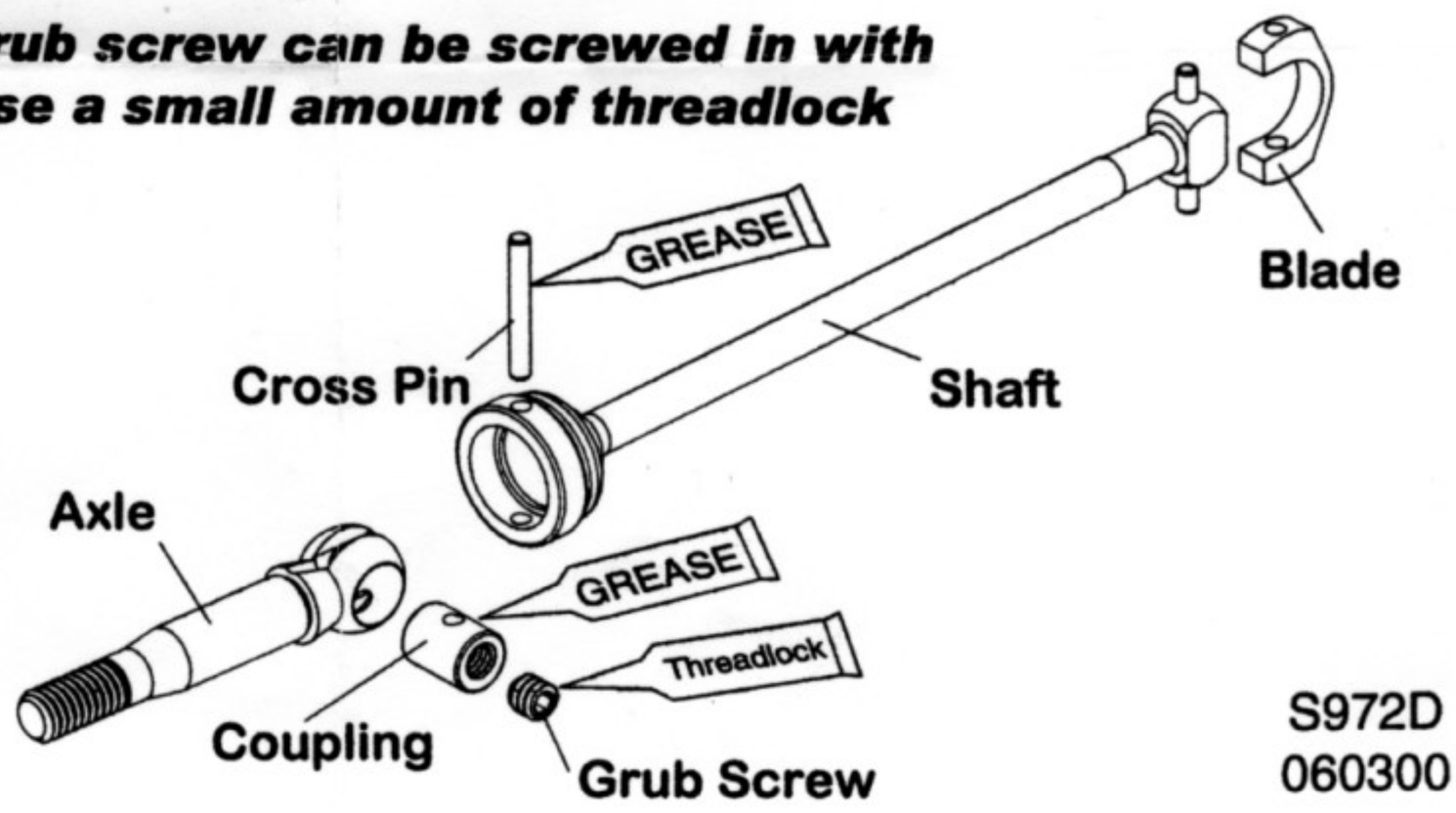


NOTE: REVERSE LEFT & RIGHT STEERING

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CVD DRIVESHAFT INSTRUCTIONS

1. ***Spread a thin layer of MIP CVD lube on coupling, and insert into axle.***
2. ***Slide completed axle into shaft with the cross holes in coupling and shaft aligned.***
3. ***Insert the cross pin, and make sure it is evenly spaced on both sides of the shaft.***
4. ***Angle the axle so the grub screw can be screwed in with the allen key. Always use a small amount of threadlock on the grub screw only.***



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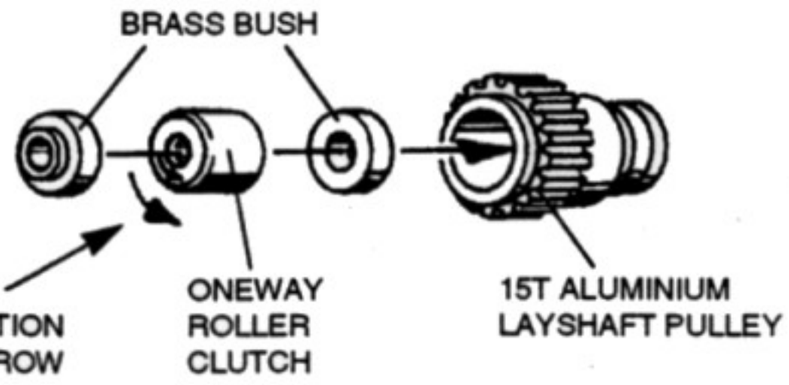
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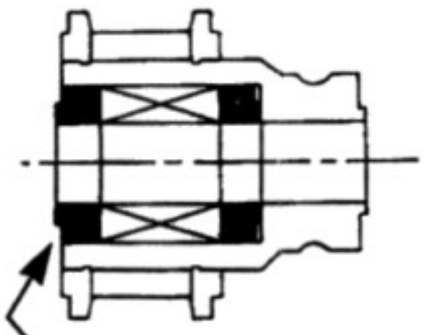
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ALUMINIUM ONEWAY ROLLER CLUTCH LAYSHAFT PULLEY

CAT 400

1 CAREFULLY PRESS THE BRASS BUSHES & ONEWAY ROLLER CLUTCH INTO THE LAYSHAFT PULLEY USING A SMALL VICE

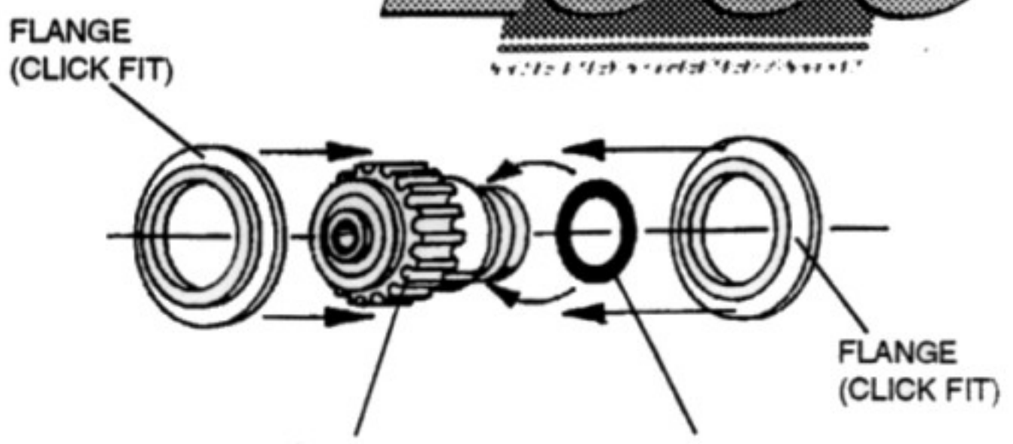




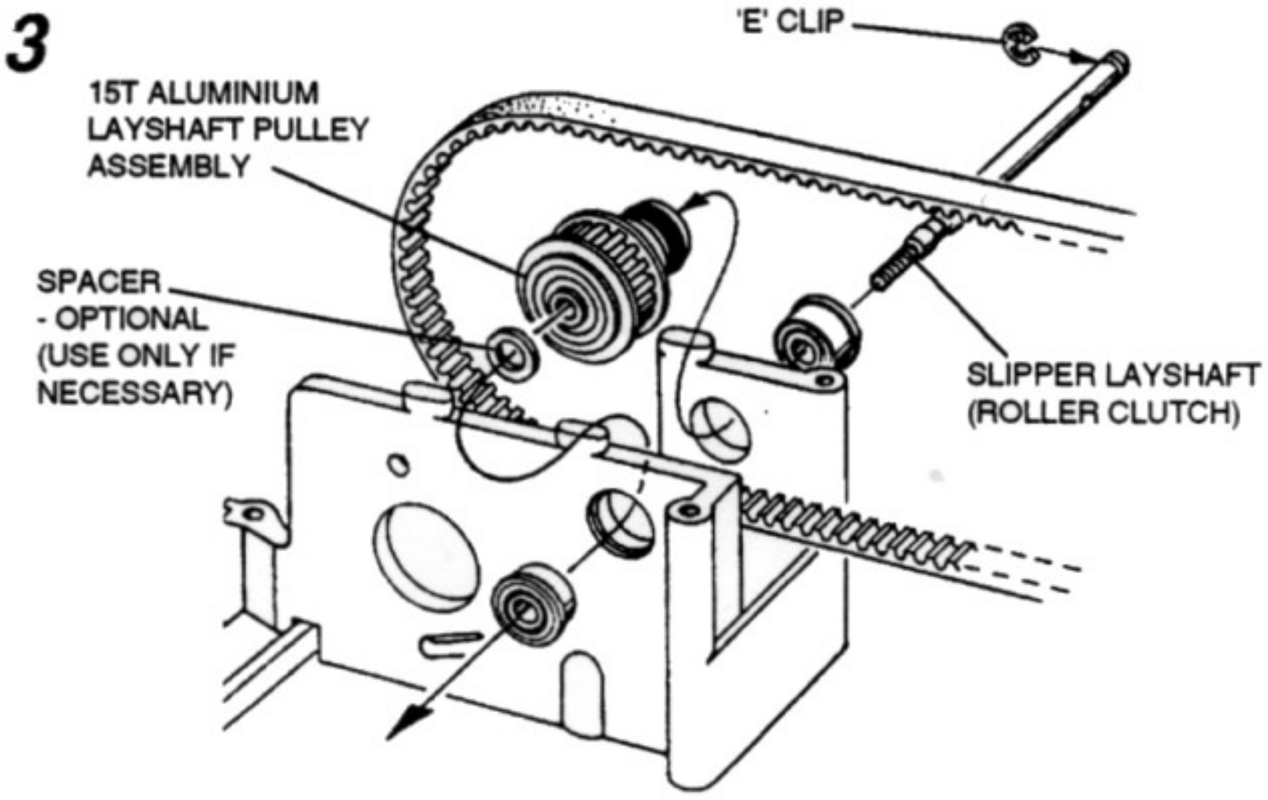
WARNING:

MAKE SURE THE ONEWAY ROLLER CLUTCH IS FITTED THE CORRECT WAY ROUND - **ONCE ITS IN YOU WON'T BE ABLE TO GET IT OUT**

2



3



4

OPTIONAL

THE ONEWAY ROLLER CLUTCH CAN BE LOCKED OUT BY INSERTING A PIN AS SHOWN.
THIS IS MAINLY USED WHEN YOU WANT BRAKING ON THE FRONT WHEELS.

