

 **Schumacher**

# GOUGAR

**The Hot Contender**  
**2WD**



COMPETITION ALL TERRAIN

MANUFACTURED AND DISTRIBUTED WORLDWIDE BY:

 **Schumacher**

Hanson Business Park, 71-73 Tenter Road,  
Moulton Park, Northampton,  
NN3 1AX, England.

**INSTRUCTION  
MANUAL**

**Performance and technology that YOU CAN BUY!**



# Schumacher

# SPEED SECRETS

## NEW "BLUE" NATURAL COMPOUNDS

The whole range of Schumachers world famous CAT tyre range is now being produced in a secret new natural compound of the very highest quality. The new compound designated "BLUE" gives very high grip level in slippery conditions and is strong enough to give massive bite when the traction is high. If you are racing to win always insist on original Schumacher tyres.

## MINISPIKE DIRT TYRES

We now offer the full range of dirt eating Minispike tyres including the original 5 x 24 Low Profiles, the intermediate 15 x 12, and the BIG one, at maximum legal diameter the 15 x 15 Minispike offers an incredible 225 grip searching spikes. Every tyre featuring specially designed internal ribbing for total tread control.

*INSIST ON SCHUMACHER*



SPONGES



15x15 MINISPIKE



15x12 MINISPIKE



6x20 BLOCK



4x20 SPIKE



5x24 MINISPIKE



4x20 CUT SPIKE



FRONT RIB



FRONT STUD



FRONT RIB SPIKE



6x20 CUT SPIKE

BLUE	SOFT	HARD	DESCRIPTION
T687E	T650T	T651U	4 x 20 Spike — Rear
T688F	T652V	T653W	3 x 20 Spike — Front
T689G	T654X	T655Y	2 x 20 Stud — Front
T690H	T658B	T659C	5 x 24 Minispike — Rear
T691I	T660D	T661E	4 x 24 Minispike — Front
T692J	T662F	T663G	6 x 20 Block — Rear
T693K	T664H	T665I	4 x 20 Block — Front
T694L	T666J	T667K	6 x 20 Cut Spike — Rear
T695M	T668L	T669M	1 + 20 Rib Spike — Front

BLUE	SOFT	HARD	DESCRIPTION
T696N	T672P	T673Q	4 x 20 Cut Spike — Rear
T697O	T674R	T675S	3 x 20 Cut Spike — Front
T698P	T676T	T677U	Rib — Front
T679W	N.A.	N.A.	15 x 12 Minispike — Rear
T681Y	N.A.	N.A.	11 x 12 Minispike — Front
T683A	N.A.	N.A.	15 x 15 Minispike — Rear
T685C	N.A.	N.A.	11 x 15 Minispike — Front
—	T670N	—	"Sponges" on Wheel — Front
—	T671O	—	"Sponges" on Wheel — Rear

## TYRE COMPOUND SELECTION

The very latest "BLUE" compound provides massive grip under a very wide variety of track conditions.

We recommend the "BLUE" compound as every racers first choice.

The original "HARD" CAT tyres, famous the world over.

The "SOFT" compound gives ultimate traction on very slippery surfaces.

**AVAILABLE FROM ALL GOOD MODEL SHOPS**

# SCHUMACHER

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## INTRODUCTION

Congratulations on choosing the COUGAR.

The COUGAR has been designed so that adjustments can be made to the car to suit different track conditions, enabling you to be competitive at all times.

The straight forward modular construction and clear concise instructions will give experts and beginners alike superb reliability and great performance.

We hope you have fun and enjoy your racing!

*Cecil Schumacher*

## IMPORTANT SAFETY NOTES

1. 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.
2. Shock fluids, grease and adhesives should be kept out of childrens reach. They are not toxic, but were not intended for human consumption.
3. Exercise care when using any hand tools, sharp instruments and power tools during construction.
4. Carefully read all manufacturers warnings and cautions for any glues or paints that may be used for assembly purposes.

In line with our policy of continuous development the exact specification of the kit may vary.



Places to put threadlock. (It will prevent the screws and nuts vibrating loose.)



Points where silicone grease (MS 1 or equivalent) 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.)

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## MISSING OR DEFECTIVE PARTS

In the unlikely event of problems with your new kit you should contact the model shop where purchased, quoting part number, bag number and batch number for both the bag and the kit.

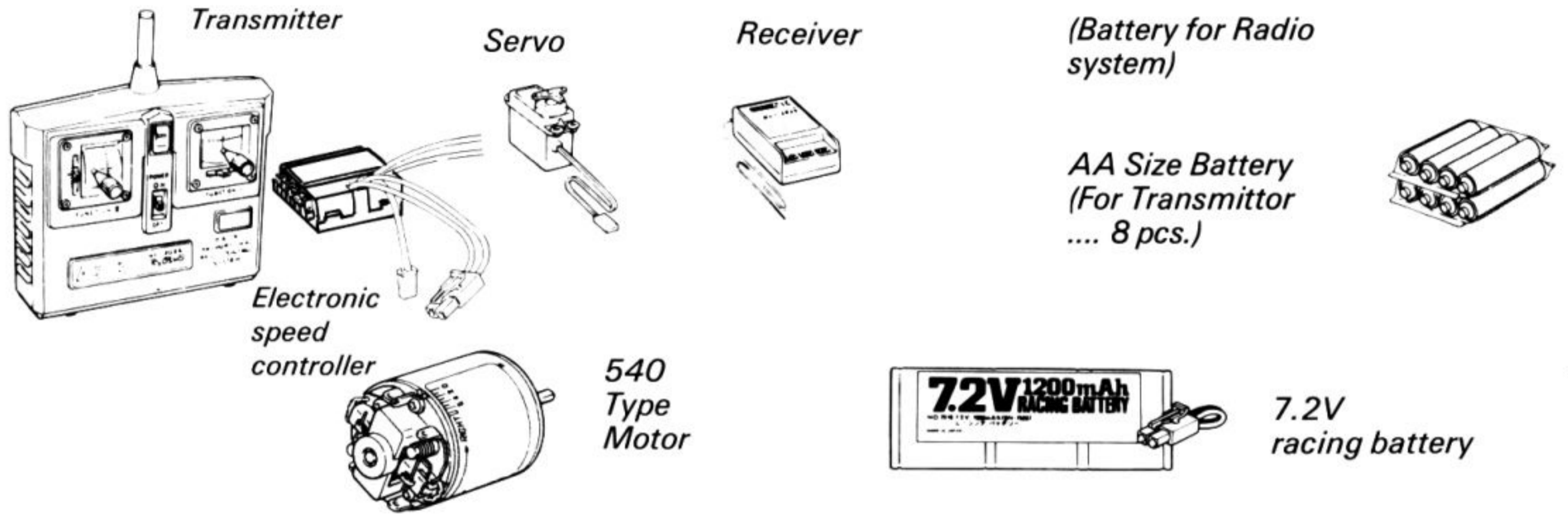
## SCHUMACHER RACING PRODUCTS

Hanson Business Park · 71-73 Tenter Road · Moulton Park · Northampton · NN3 1AX

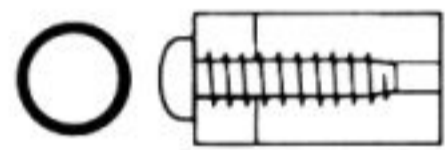
**THINGS NEEDED BESIDES THE KIT**

(2 Channel Radio System)

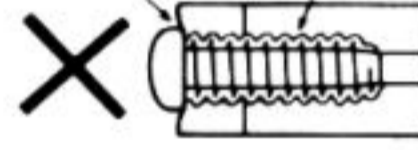
Two types of radio control sets are on the market, the stick type and the steering wheel type. Choose which ever you like.



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



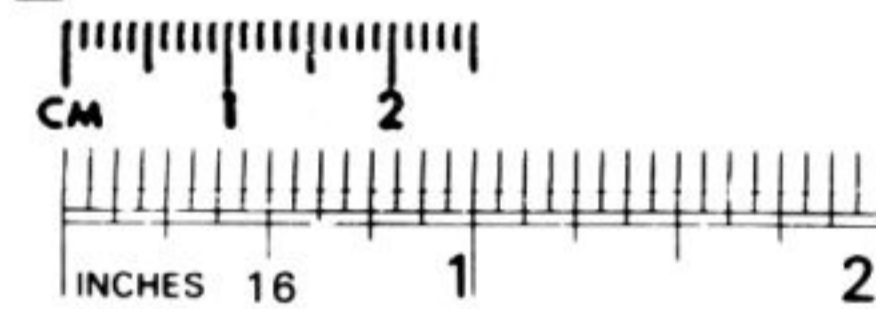
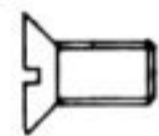
Over tighten and may strip the thread in the plastic

CH HD Cheese head

CSK HD Countersunk head

PAN HD Self tap thread

CAP HD Cap head



**SCREW IDENTIFICATION CHART**

**TOOLS REQUIRED FOR ASSEMBLY**

- Screwdriver
- Spanner 5.5mm A/F
- Spanner 1/4 A/F
- Drill (for holes in bodyshell & covers)
- Pliers
- Vice
- Sharp Knife
- File
- Pointed nose pliers or cutters

**MATERIALS REQUIRED**

(not in kit)

- Threadlock
- Light oil for shock absorbers
- Polycarbonate paint for bodyshell
- Motor, batteries, radio control equipment
- speed controller

"For best performance, it is very important that great care is taken to ensure the free movement of all parts."

**HARDWARE**

- Self tap screw No.4 x 3/8 pan head
- Stud M3 x 35mm long
- A412 Stainless steel pin 2 x 54mm long
- A417 Pivot pin 2 x 40mm
- M3 x 20 Pan head screw
- No.4 x 5/8 Pan head self tap screw
- M3 x 10 pan head screw
- M3 Nut
- Nylon washer 8 x 3 x 1.6mm
- M3 x 16 Pan head screw

**NOTE:**  
Before assembly it is advisable to smooth all the edges of the alloy chassis using a fine grade of abrasive paper.

1). Cut out the dirt shield piece from the lexan bodymoulding sheet. Trim the piece to obtain two rear hub carrier dirt shields shown. The lexan part should locate as the drawing shows and be a snug fit.

2). Fit T260 body and wing mount to back of bulkhead using four No.4 x 3/8 panhead self-tap screws.

3). Fit T263 wing brackets to body and wing mount using No.4 x 3/8 panhead self-tap screws.

4). Fit bulkhead assembly to chassis together with T202 pivot blocks using No.4 x 3/4 panhead self-tap screws.

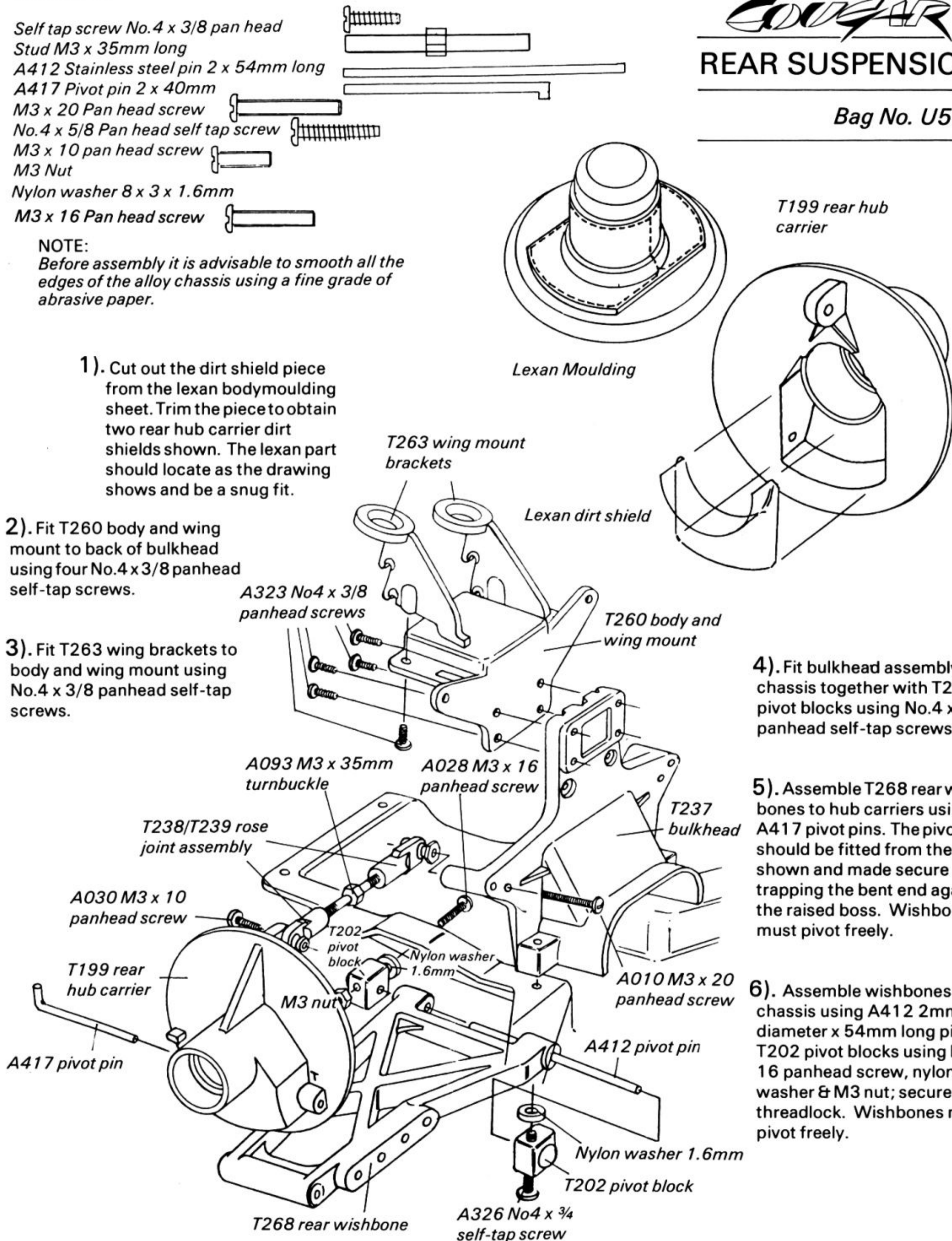
5). Assemble T268 rear wishbones to hub carriers using A417 pivot pins. The pivot pin should be fitted from the side shown and made secure by trapping the bent end against the raised boss. Wishbones must pivot freely.

6). Assemble wishbones to chassis using A412 2mm diameter x 54mm long pins & T202 pivot blocks using M3 x 16 panhead screw, nylon washer & M3 nut; secure with threadlock. Wishbones must pivot freely.

7). Assemble 4 rose joints by fitting the T239 rose joint ball into the T238 rose joint socket using a screw & washer as shown. The upper socket in the diagram is used as a spacer to aid assembly only.

8). Make both rear suspension top links by screwing rose joints on each end of the M3 x 35mm long stud. Equalise thread engagement & make length approximately 47mm between centres of holes.

9). Fit top links, seating on the hexagon end, using M3 x 20 panhead screws in the in-board hole in the bulkhead and M3 x 10 panhead screws in the hub carrier. Tighten securely using threadlock.

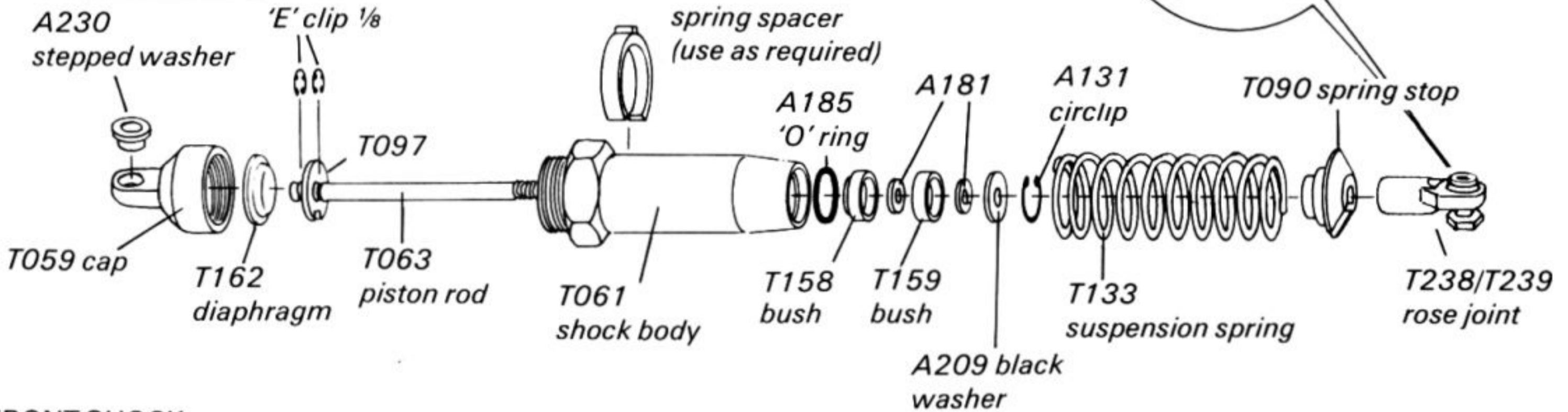


**HARDWARE**

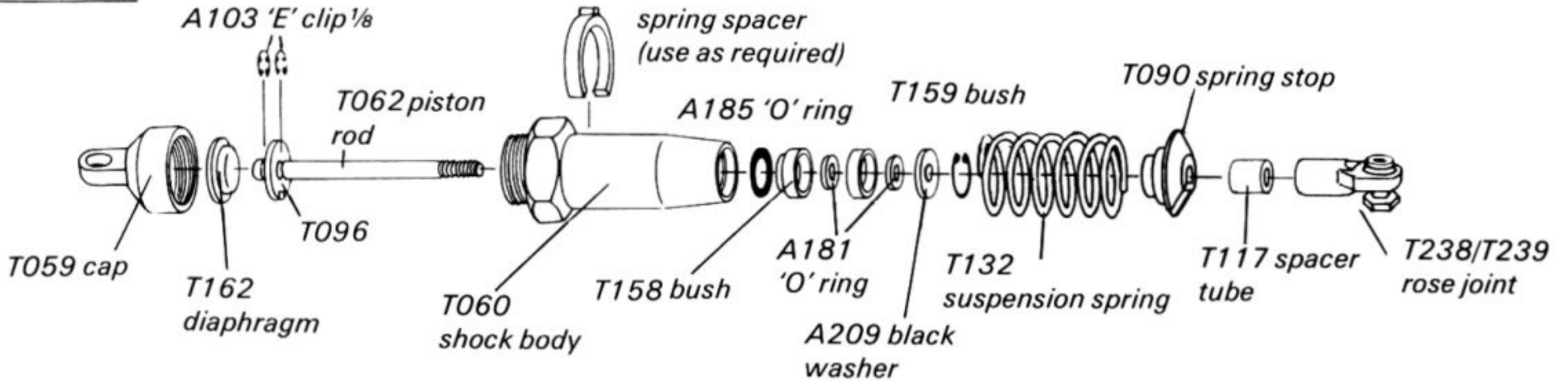
- A181 Silicone 'O' ring 1/8"
- A185 'O' ring 5.0 x 1.6mm
- T162 Shock absorber diaphragm
- A209 Black washer 3.3 x 7.8 x 0.8
- T059 Cap-shock absorber
- T062 Piston rod 16mm stroke
- T063 Piston rod 32mm stroke
- T090 Spring stop
- A230 Stepped washer
- T092 Spring spacer 1.0
- T093 Spring spacer 2.0
- T094 Spring spacer 4.0
- T095 Spring spacer 8.0
- A038 M3 x 12 caphead

- T238 Rose joint socket
- T239 Rose joint ball
- T096 Piston 1 sq.mm hole
- T097 Piston 2 sq.mm hole
- A208 Nylon washer
- T117 Front spring stop spacer
- T132 Suspension spring 045 x 8 x 1.5 front
- T133 Suspension spring 045 x 11 x 2.5 rear
- T158 Bush & seal housing
- T159 Seal housing
- A103 'E' clip 1/8 x 0.12"
- A131 Circlip 8mm x 0.39
- T060 Body short
- T061 Body long
- A039 M3 x 16 caphead
- A048 M3 nut
- A051 Nyloc nut

**REAR SHOCK**



**FRONT SHOCK**



Deburr circlip grooves and threads on piston rods T062/T063 before assembly to avoid damage to the seals. Fit a small 'E' clip A103 to the lower groove in the front T062 piston rod, followed by a T096 piston (small notch) retained with a second 'E' clip.

Repeat the procedure with the T063 rear piston rod and T097 piston (large notch). Make sure all the 'E' clips are secure in their grooves; Check assembled piston in shock absorber body for clearance over the whole length of stroke.

Diagrams show the order of assembly for the shock absorber seals and bushes; the sequence being:- A185 'O' ring; T158 bush and seal housing; A181 'O' ring; T159 seal housing; A181 'O' ring; A209 black washer; and finally, the A131 circlip to retain the assembly.

The above sequence is the same for all four shock absorbers. Lightly oil the four piston rods. Carefully push rods down through their respective shock absorber bodies to avoid damage to the seals. Screw two T238 rose joint assemblies to the bottom of the rear shock absorber piston rods; do not damage the piston rod. Cut two 6mm lengths from the black T117 spacer tube and slide one of these onto each front piston rod before fitting the two T238 rose joint assemblies.

With the piston rods extended, fill the shock absorbers with a light oil. Work the pistons up and down to release any trapped air. Fit the T162 shock absorber diaphragm, into the oil filled shock absorber body so that all air is expelled. Fit T059 cap and check for smooth action. Fit the front suspension springs T132 to the front shock

absorbers and retain with a T090 spring stop.

Repeat the procedure for the rear shock absorbers using the T133 rear suspension springs.

Insert spring spacers T092/T093/T094/T095 as required to adjust the ride height.

Press the A230 stepped washer into the T059 cap of each rear shock absorber.

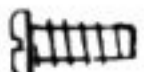
Fit M3 x 16 cap head screw to T260 mount and lock in place using M3 nuts. (see main diagram).

Fit rear shock absorber and retain with one A208 nylon washer and one A051 nyloc nut.

Do not fully tighten nut, shock absorber must have some clearance over the full range of suspension travel.

At the bottom, screw M3 x 12 caphead screw through rose joint ball and into the lower wishbone; hexagon head towards wishbone.

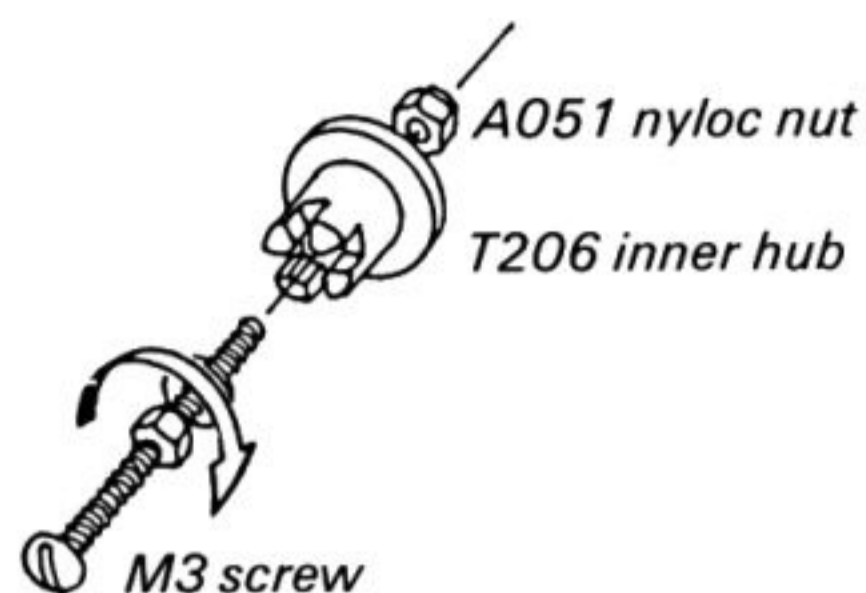
At the bottom, screw M3 x 12 caphead screw through rose joint ball and into the lower wishbone; hexagon head towards wishbone.

**HARDWARE**Self-tap screw No.2 x 1/4" panhead 

Nyloc nut M3

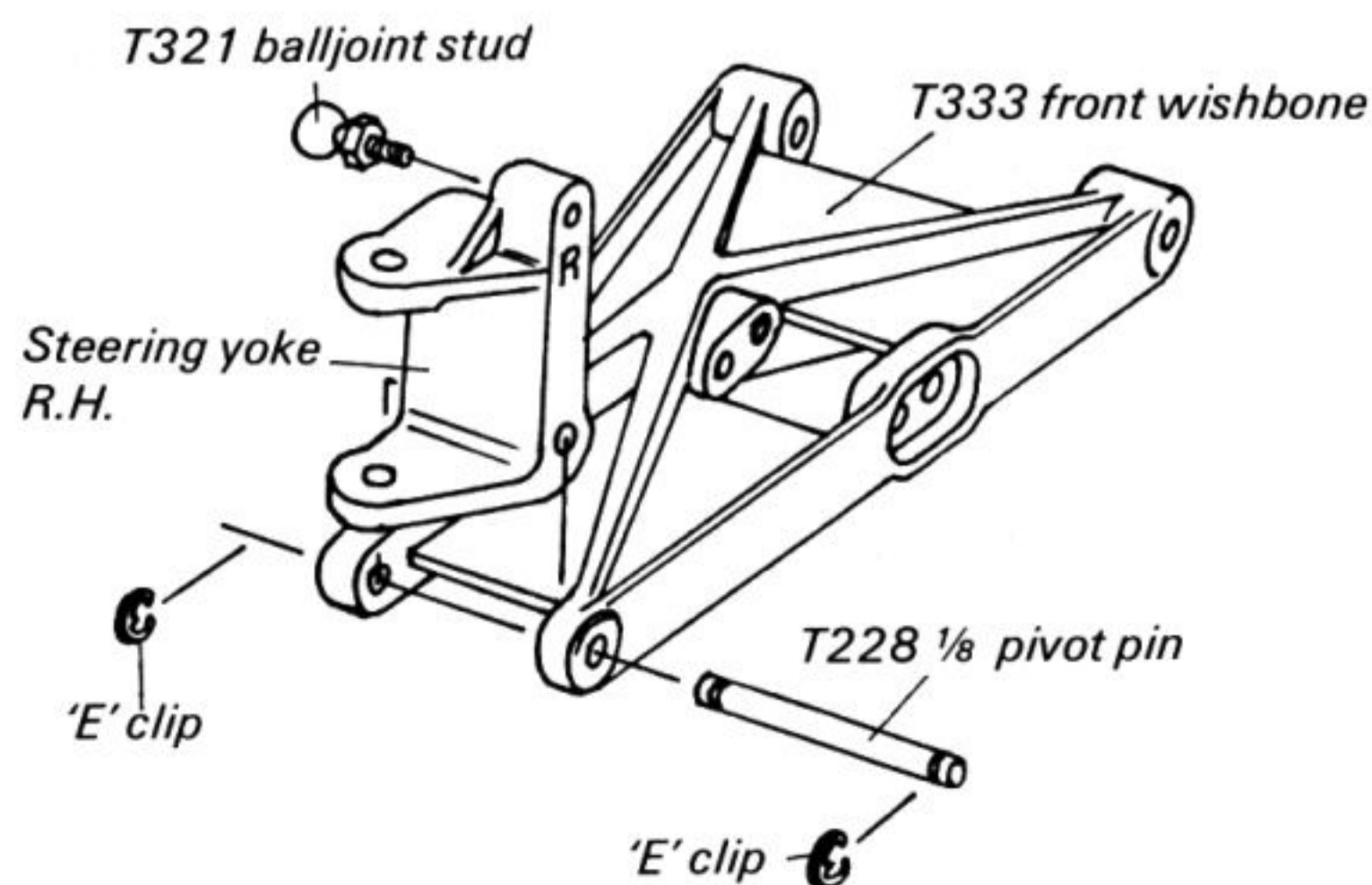
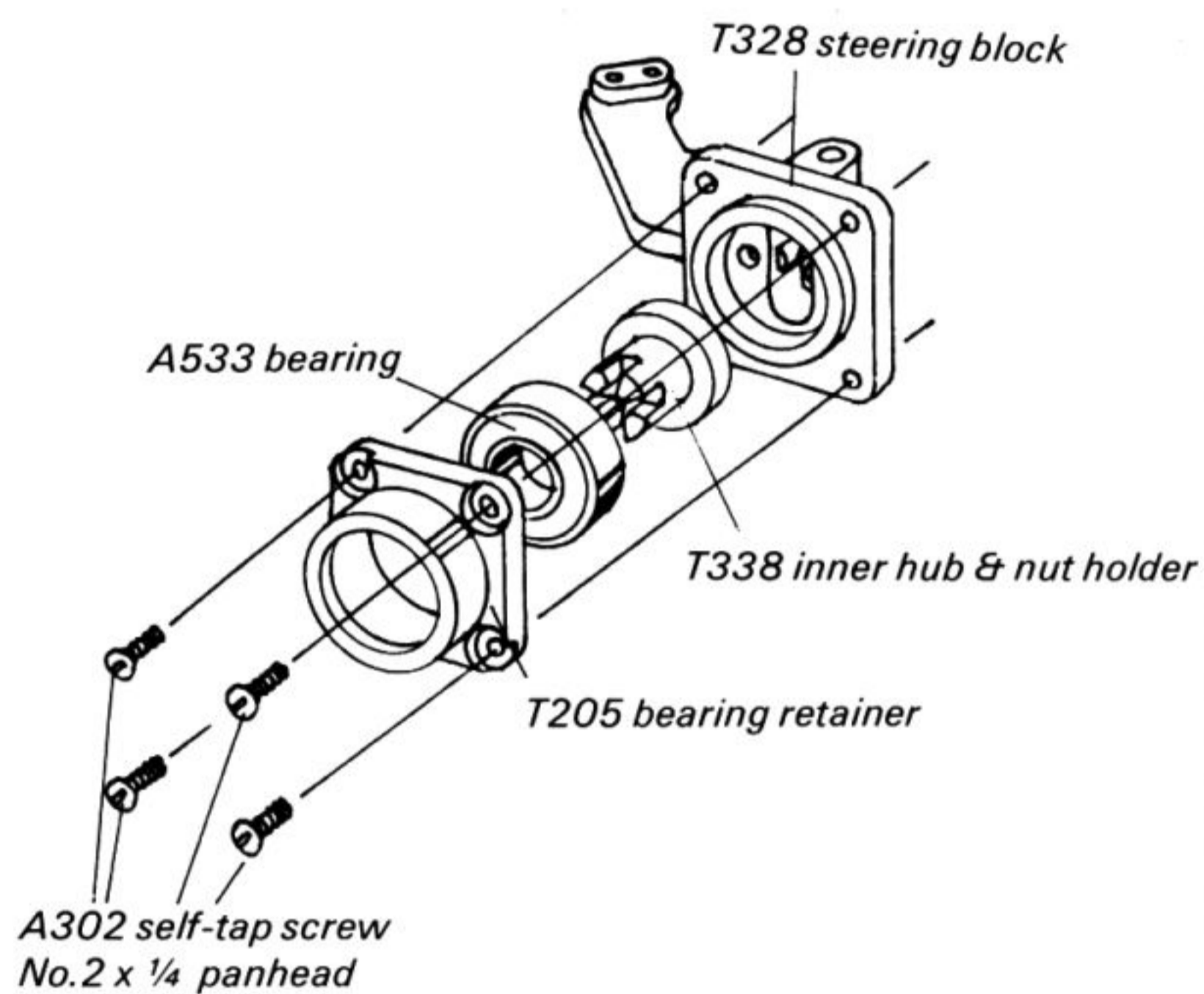
T228 1/8" pivot pin short

'E' clip



1). Push an A051 nyloc nut into the two T338 inner hubs. Pull into position using an M3 screw, washer and nut as shown.

2). Push T338 inner hub into the A533 bearing with the flange of the hub next to the brown bearing shield. Push the bearing into the T205 retainer and secure to the T328 steering block using 4 No.2 x 1/4" panhead self-tap screws. Repeat the assembly for the other steering block.



3). Screw a T321 ball joint stud to the steering yoke RH (marked with an 'R') as shown. Fit the T332 steering yoke RH to T333 front wishbone using a T228 1/8" pivot pin as shown. Secure the yoke using 2 'E' clips. The yoke must pivot freely. Repeat the assembly for the lefthand steering yoke.

**HARDWARE**

T339 Inboard wishbone pivot

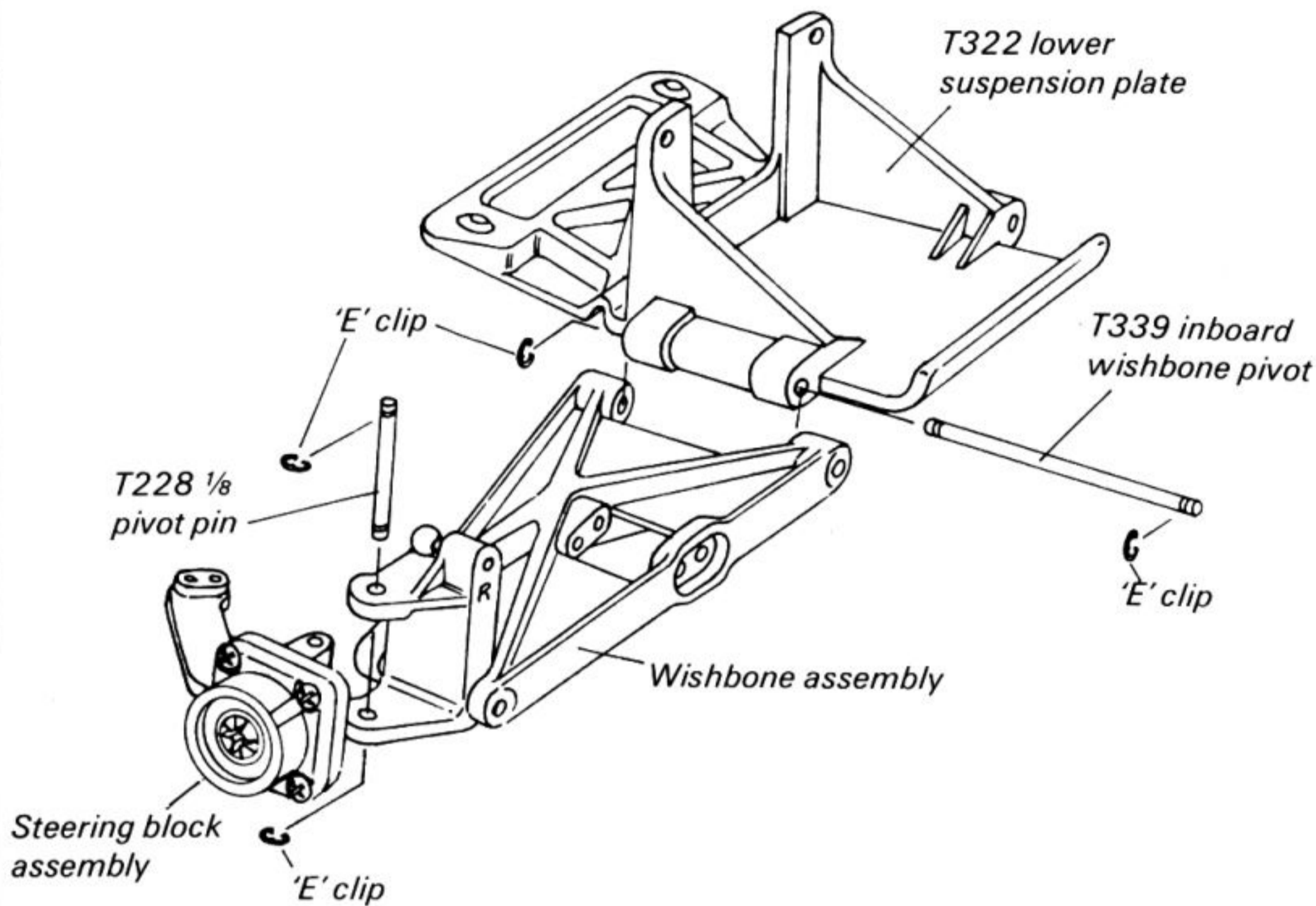
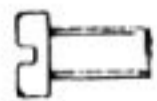
T228 1/8" pivot pin short

'E' clips

M3 x 12mm steel screw countersunk

M3 steel washer

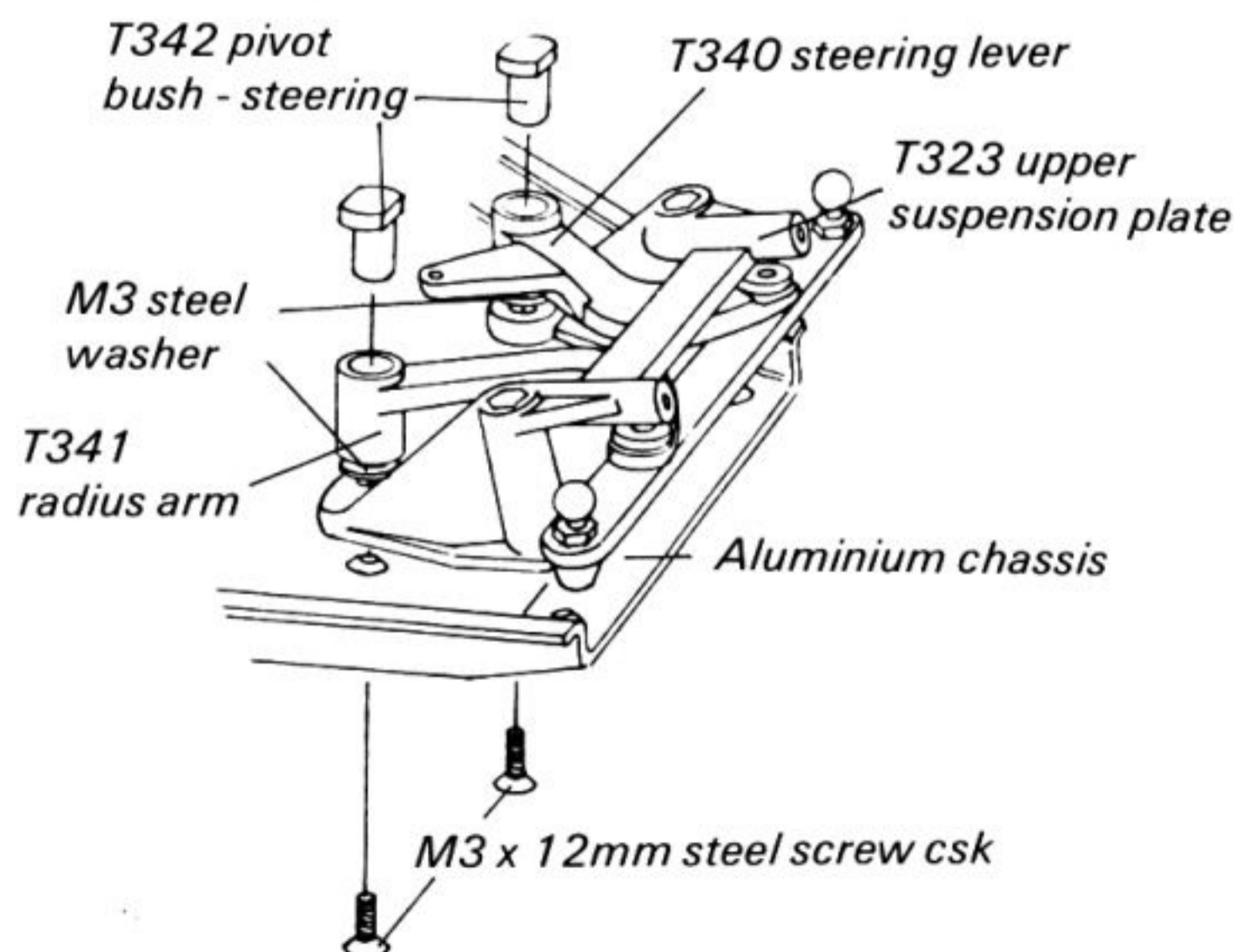
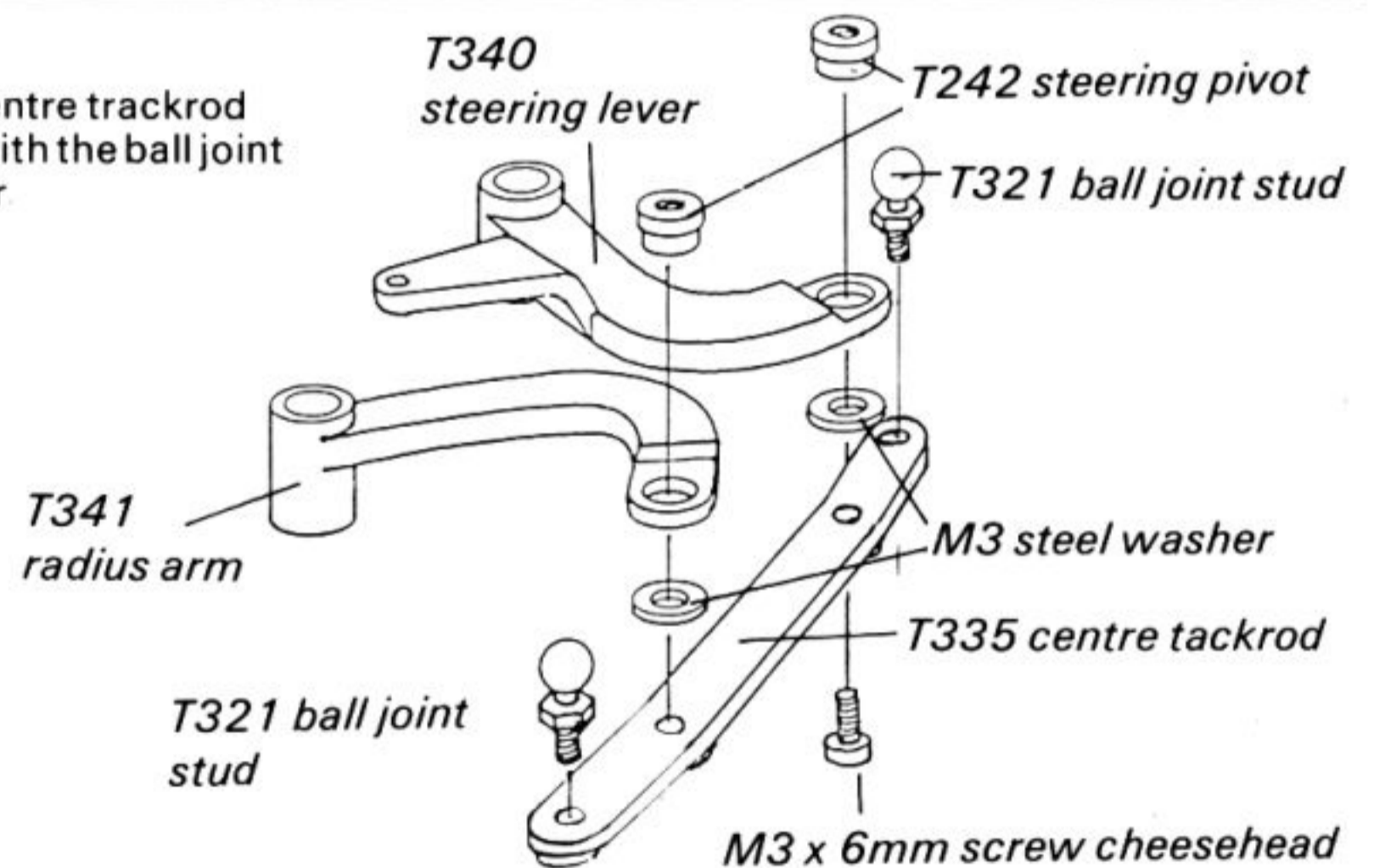
M3 x 6mm steel screw cheesehead



4). Fit a steering block assembly to the righthand steering yoke using a T228 1/8" pivot pin and secure with 2 'E' clips. The steering block must pivot freely. Fit the complete wishbone assembly to the T322 lower suspension plate using T339 inboard wishbone pivot pin. Secure with two 'E' clips. The wishbone must pivot freely. Repeat the assembly for the lefthand side.

5). Screw T321 ball joint studs into the outer holes in the T335 centre trackrod as shown. Fit the T340 steering lever and T341 radius arm to the T335 centre trackrod using T242 steering pivot A225 steel washer and A032 M3 x 6mm cheesehead screws. Both levers must pivot freely. Fix screws firmly but do not overtighten and secure with threadlock.

Please Note: T335 Centre trackrod must be assembled with the ball joint stud offset to the rear.



6). Place the T323 upper suspension plate onto the front of the aluminium chassis in the position shown. Fit the steering levers and trackrod assembly to the chassis using two aluminium T342 pivot bushes, steel washers and A023 M3 x 12mm countersunk screws as shown. Fix screws firmly but do not over tighten and secure with threadlock. The levers must pivot freely.



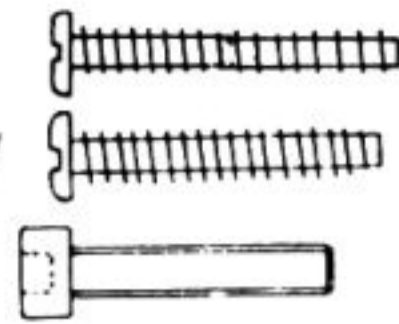
**HARDWARE**

M3 nut

M3 x 20mm steel screw panhead

No.4 x 3/4" self-tap screw panhead

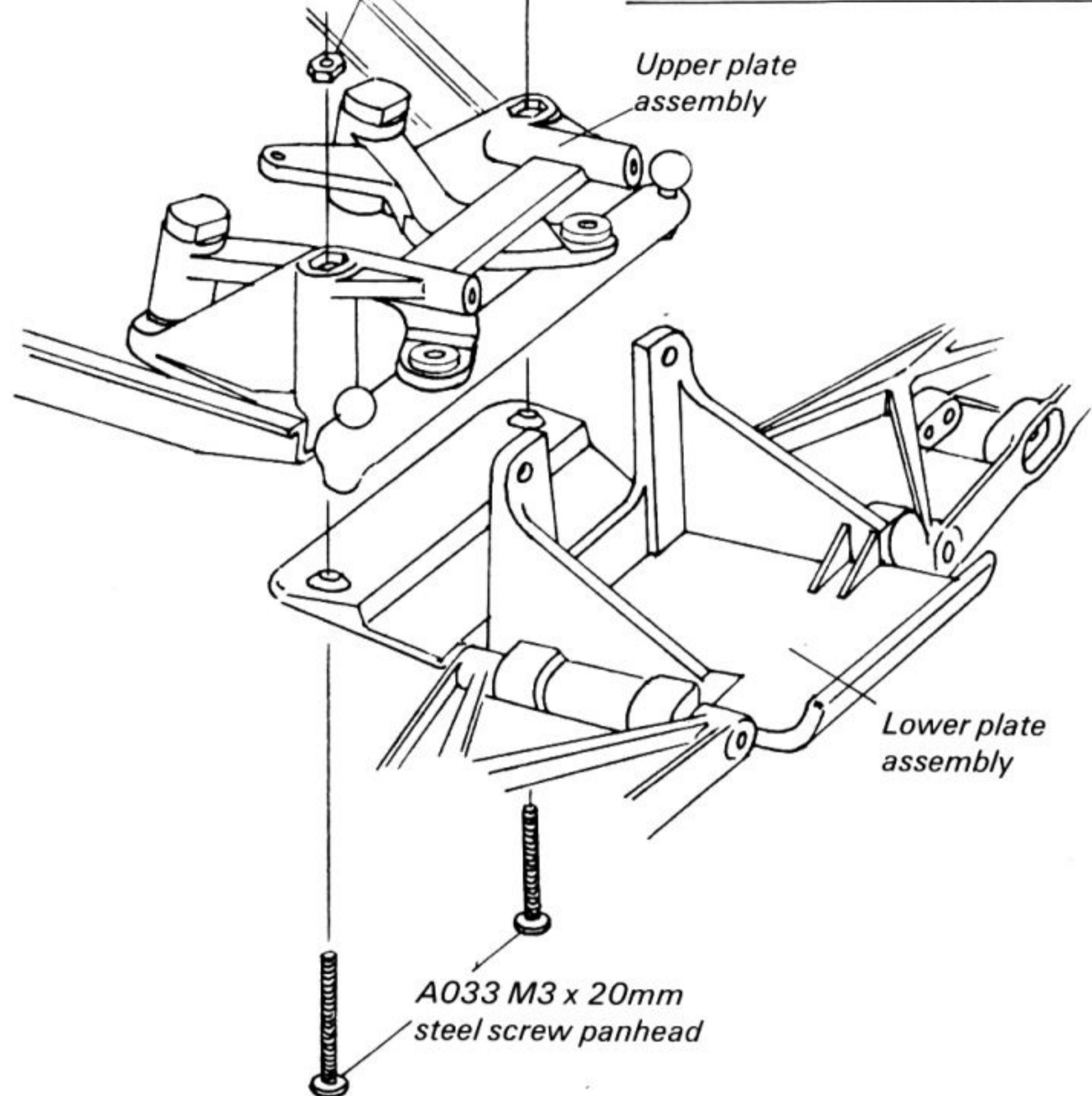
M3 x 16mm steel screw caphead



A048 M3 steel nut

Upper plate assembly

7). Fit the complete lower suspension plate assembly to the underside of the front of the aluminium chassis using A033 M3 x 20mm panhead screws and M3 nuts. Secure the nuts with threadlock.



A033 M3 x 20mm steel screw panhead

Lower plate assembly

A039 M3 x 16mm caphead screw

M3 nut

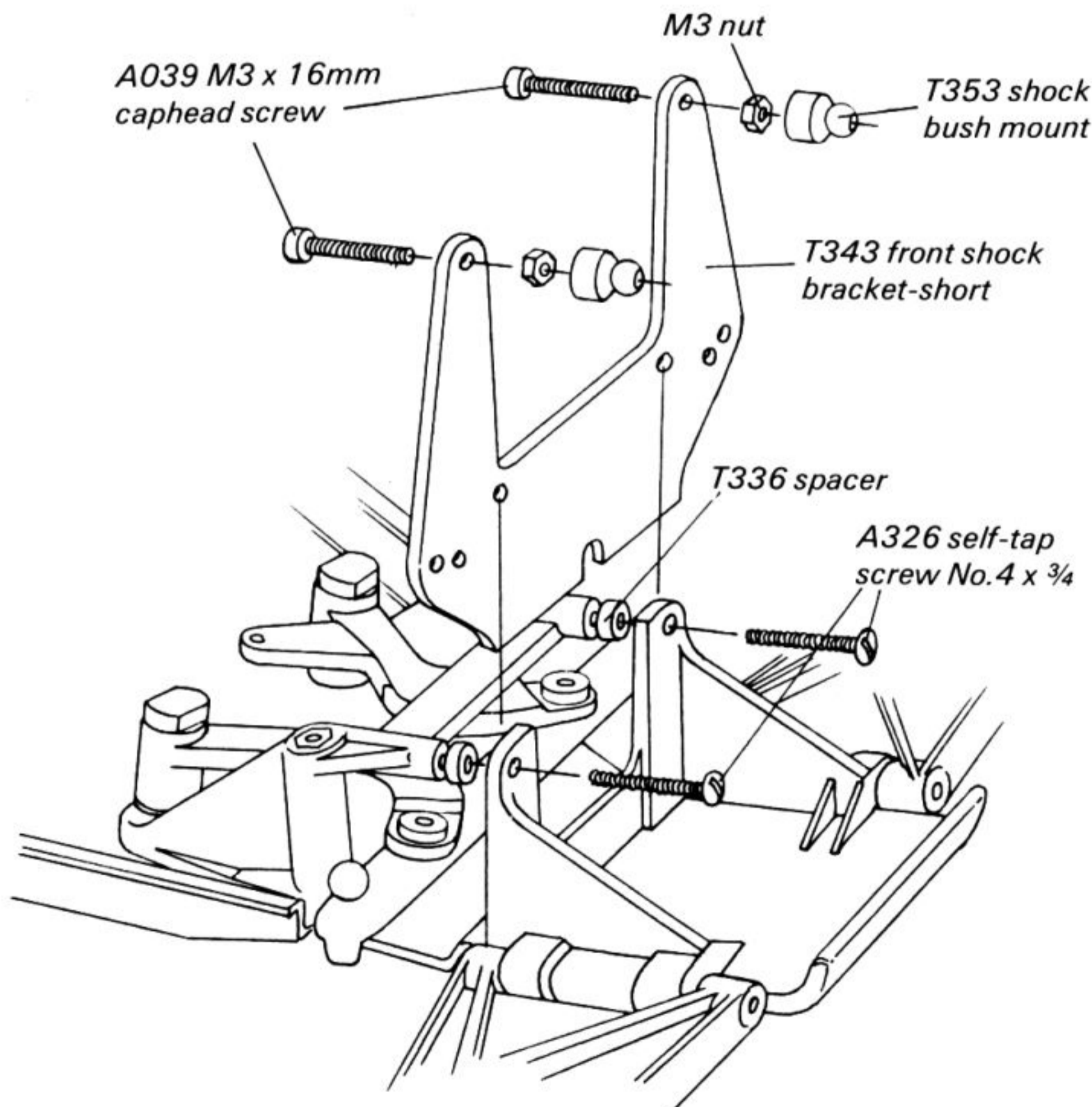
T353 shock bush mount

T343 front shock bracket-short

T336 spacer

A326 self-tap screw No.4 x 3/4

8). Insert the T343 fibreglass front shock bracket into the slot in the lower suspension plate. Secure the whole front suspension unit using A326 No.4 x 3/4" self-tap screws and T336 spacers as shown. The front suspension rake and caster angle can be adjusted using one or two spacers, or none at all. It is suggested that at first only one spacer is used each side, this gives a rake angle of 20 . Two spacers each side gives a rake angle of 15 and with no spacers the rake angle is 25 . Experiment with rake angle for different track conditions. (see track settings) At the top of the fibreglass front shock bracket fit A039 M3 x 16mm caphead screws and secure with M3 nuts. Fit T353 shock bush mounts over each M3 nut as shown.



## HARDWARE

M3 nut

Nylon washer 1.6mm

M3 nyloc nut

M3 x 12 caphead screws



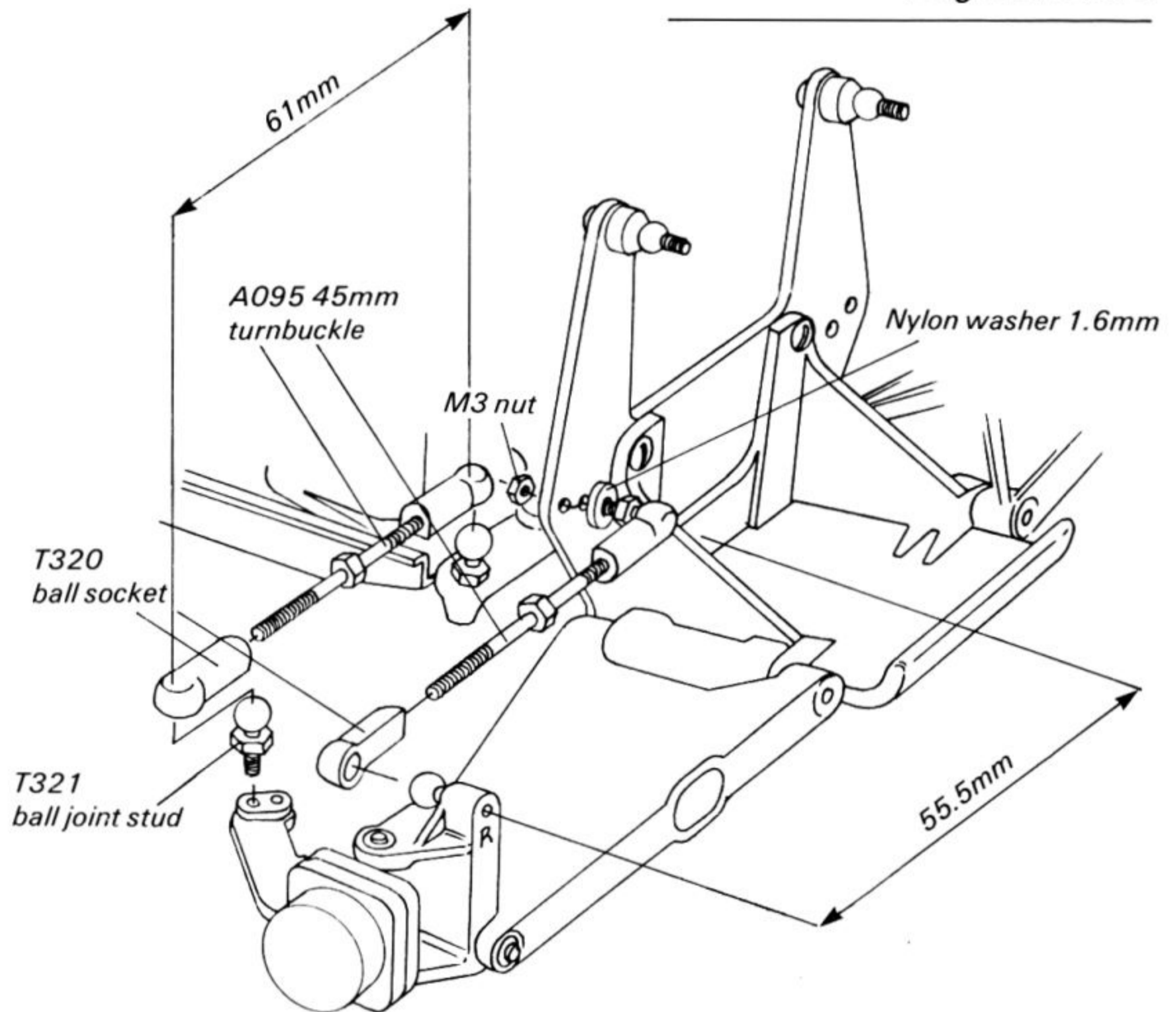
**Schumacher**

**COUGAR**

## FRONT SUSPENSION

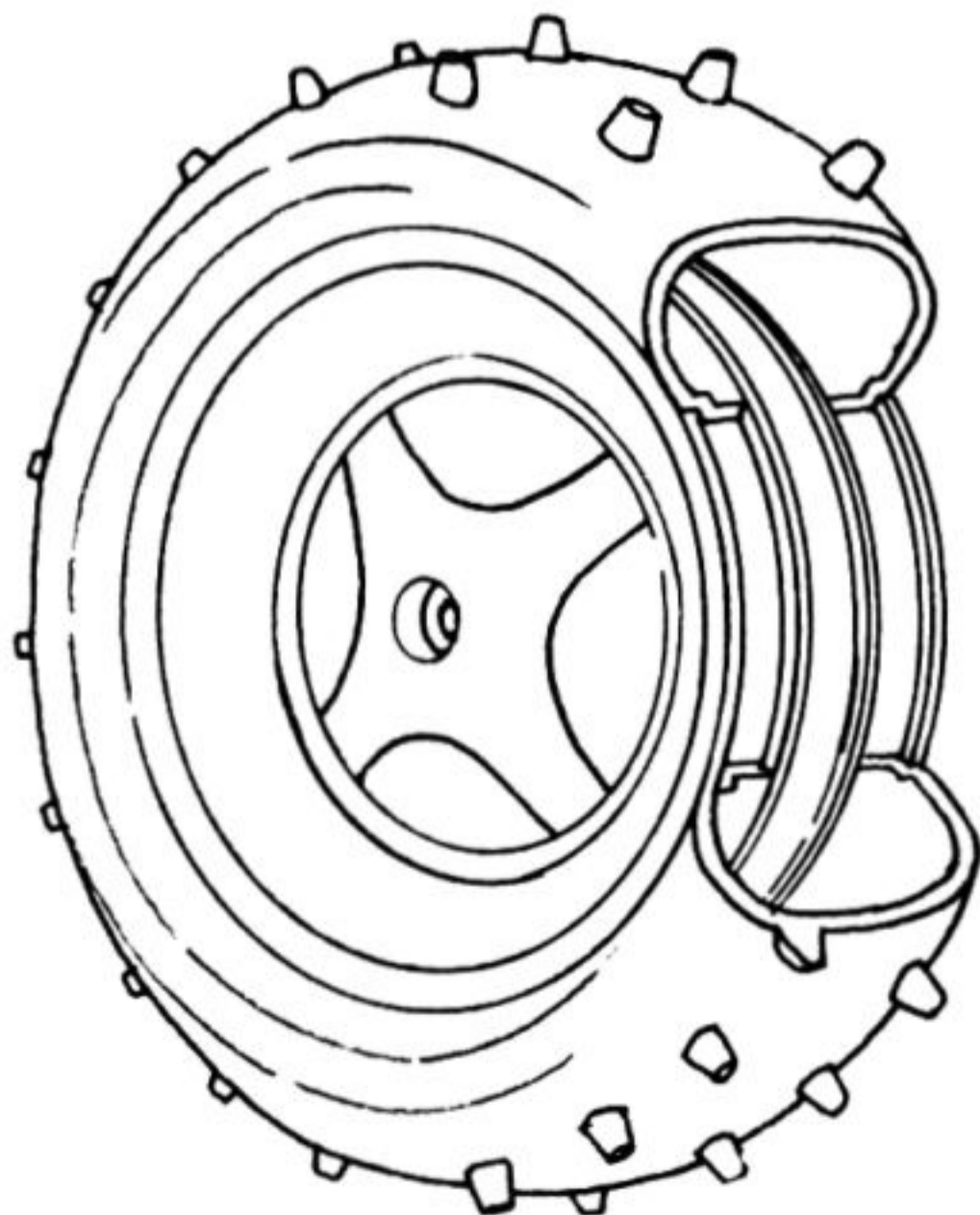
Bag No. U558

9). Fit a T321 ball joint stud and nylon washer into the outer hole in the fibreglass bracket and secure with an M3 nut and threadlock as shown. Repeat for the opposite side. The ball joint stud should face towards the front of the car. Screw a ball joint stud into the outer hole of the righthand steering block. Repeat for the lefthand side. Make up the front suspension top links by screwing T320 ball sockets to each end of two A095 M3 x 45mm turnbuckles. These have a right and lefthand thread to aid adjustment when fitted on the car. Equalise thread engagement and make length approximately 55.5mm between hole centres. Fit the top links to the car by spring fitting over the ball joint studs as shown. Make up the steering trackrod links in the same way using M3 x 45mm turnbuckles. Fit the steering trackrod links to the car by spring fitting over the ball joint studs as shown. Make the length approximately 61mm between hole centres.



10). Fit the front shock absorbers to the car by fitting the top of the shock absorbers over the T353 shock bush mounts and secure with M3 nyloc nuts. Do not over-tighten, shock absorber must have free movement over the full range of suspension travel. Insert

the rose joint at the base of the shock absorber into the slot in the front wishbone. Fix to the wishbone using an A039 M3 x 16mm caphead screw into the inboard of the two holes. (see main diagram - centre pages).



11). Fit tyres to wheels taking care to ensure that the tyre bead properly seats in the grooves of the wheels. Make sure wheels do not have 'flash' at the joint line which could prevent tyre bead from sitting properly in position.

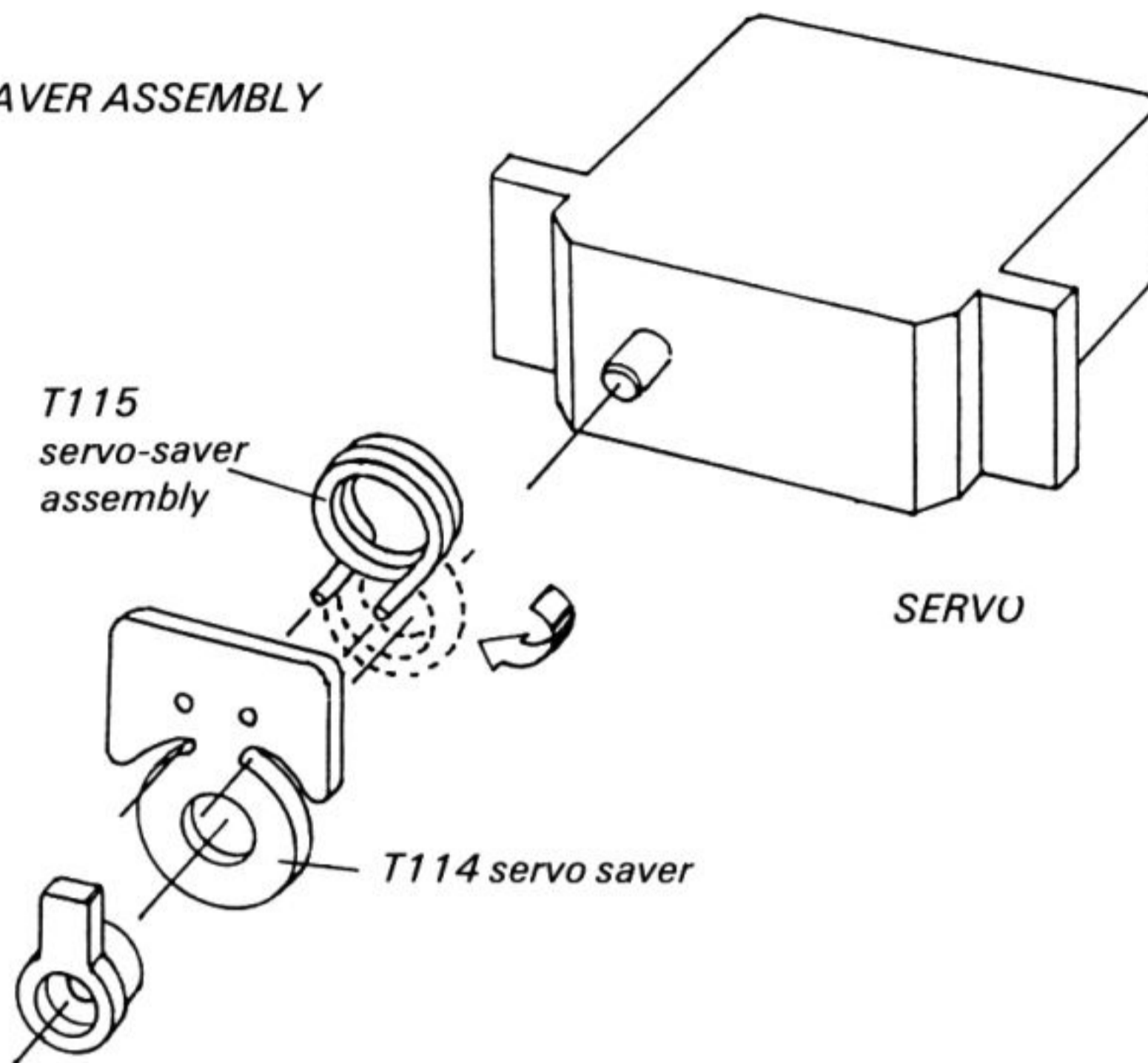
12). Fit front wheels by first assembling A038 M3 x 12 cap head screws into wheels. Then, with screw acting as a pilot, fit to hub carrier; push hard into place and feel engagement of dogs before tightening wheel retaining screw.

(See main drawing)

**HARDWARE**

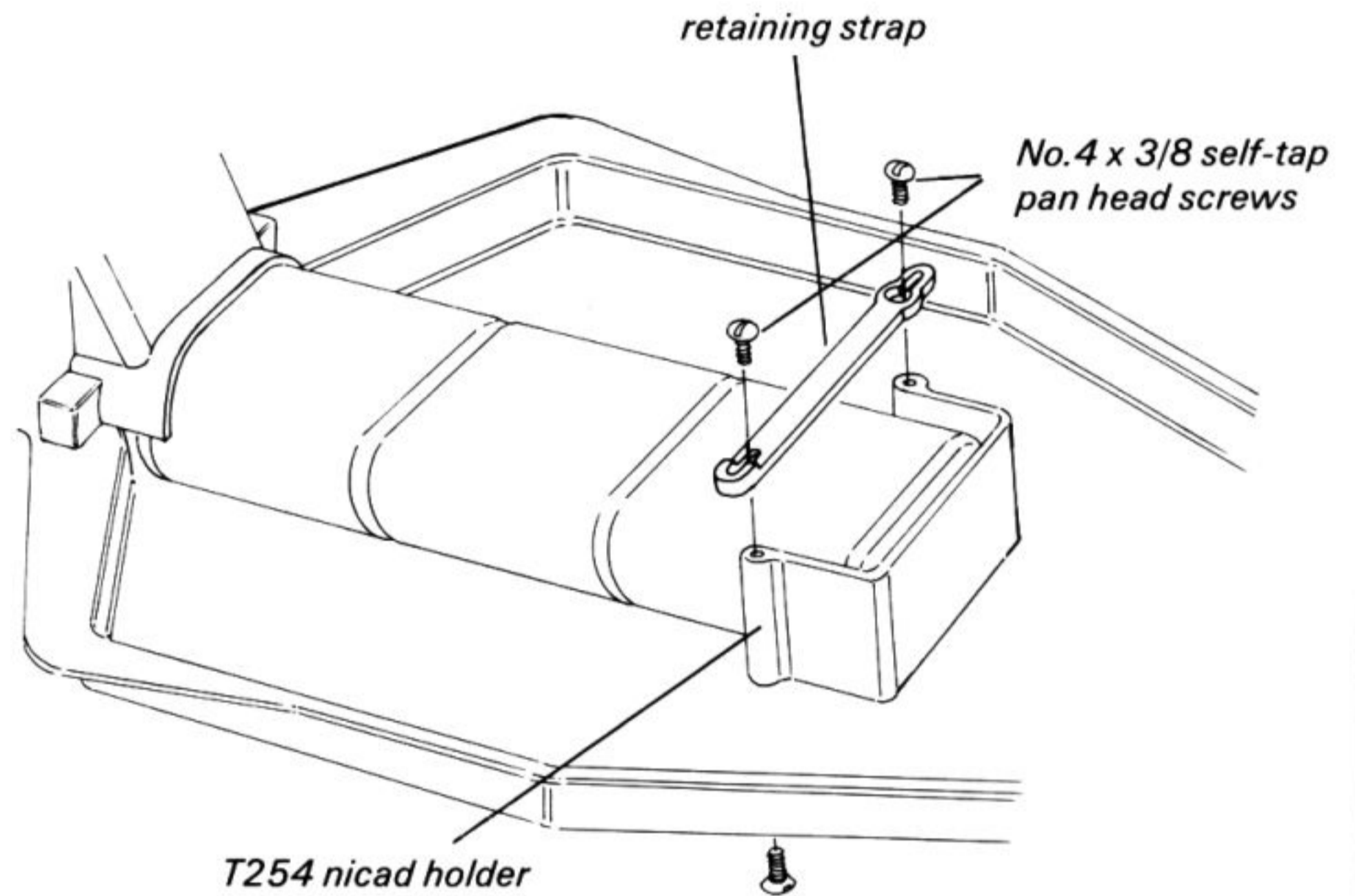
- No.4 x 3/8 self-tap panhead 
- No.4 x 3/8 self-tap countersunk head screws 

**SERVO SAVER ASSEMBLY**



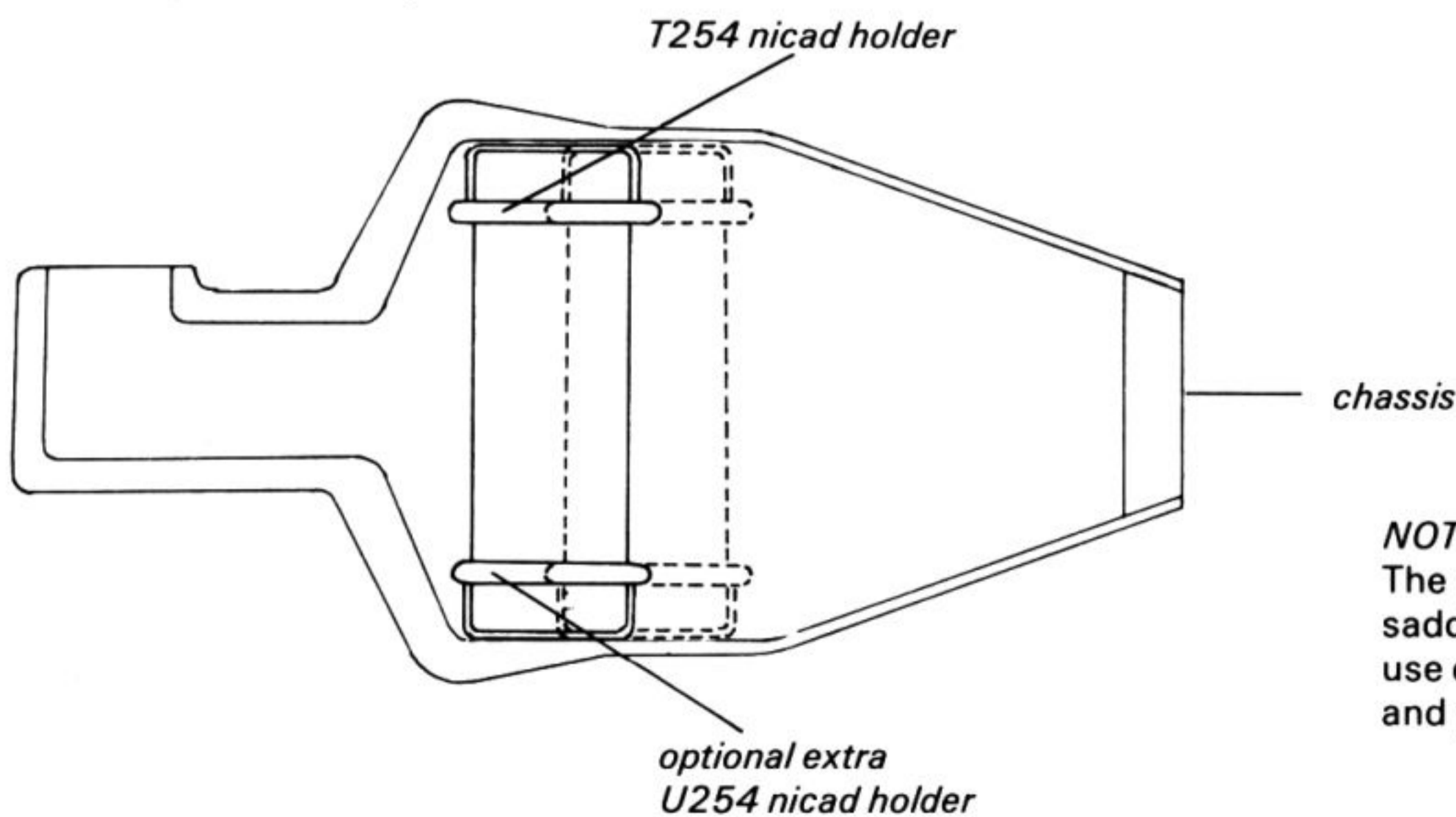
**13).** Select the servo saver fitting to suit your servo and fit the T115 servo saver spring over the T114 moulding as shown; twist the spring downwards into its correct position. The coils of the servo saver must tighten as the saver operates.

**Fitting Nicads**



**14).** Fit T254 nicad holder to chassis using No.4 x 3/8 countersunk head self-tap screws. Add retaining strap using No.4 x 3/8 pan head self-tap screws.





**Nicad-Optional Arrangement**



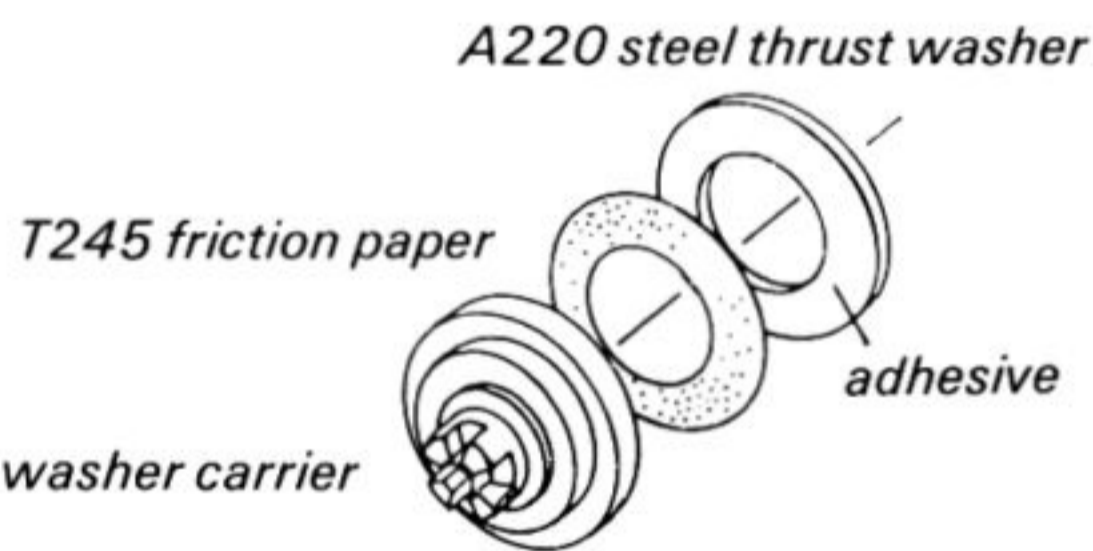
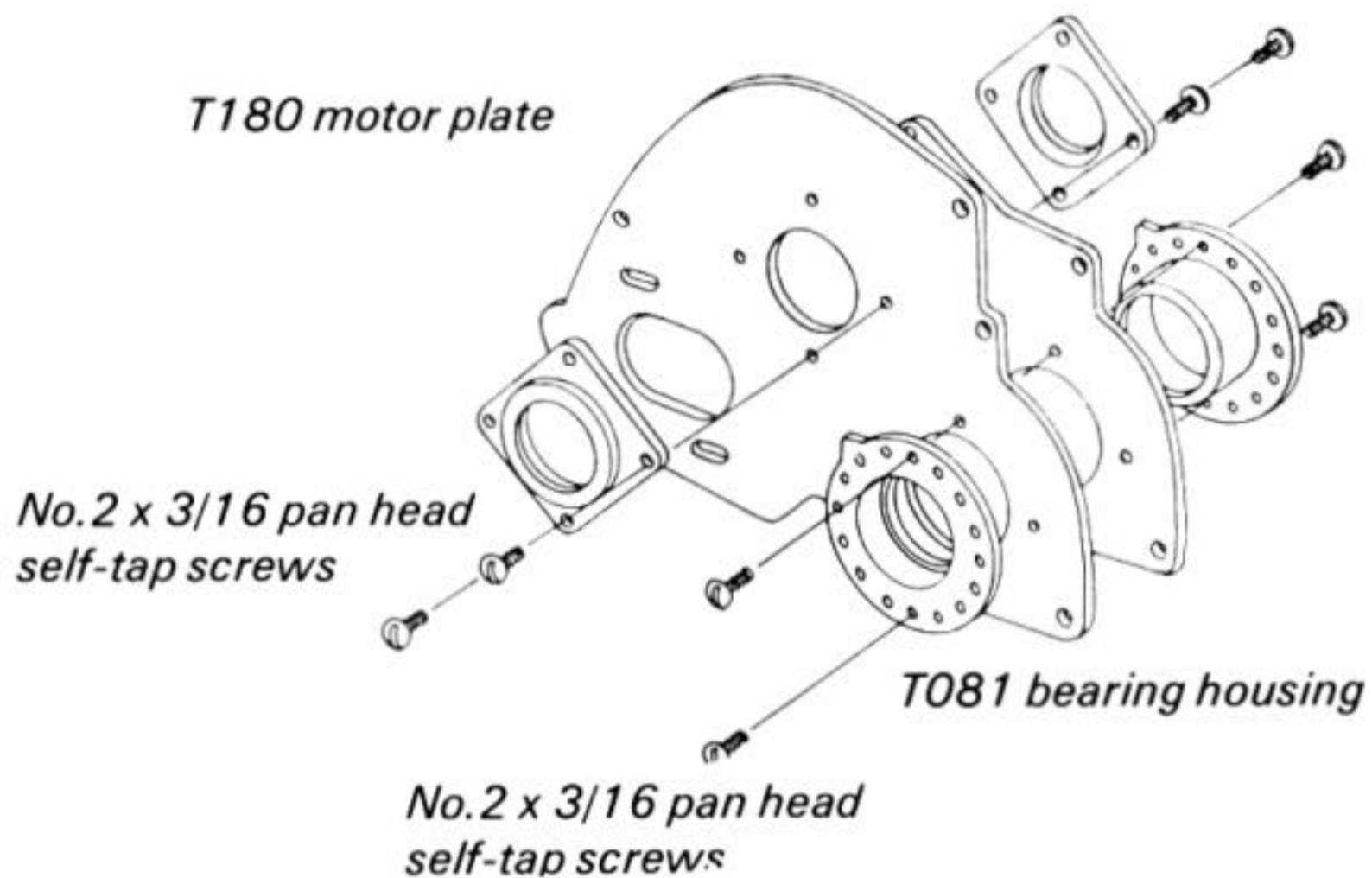
No.4 x 3/8 self-tap countersunk head screws

**NOTE:**  
The nicads can be fitted in a saddlepack arrangement with use of our quick release straps and posts, available as U743Q.

**HARDWARE**

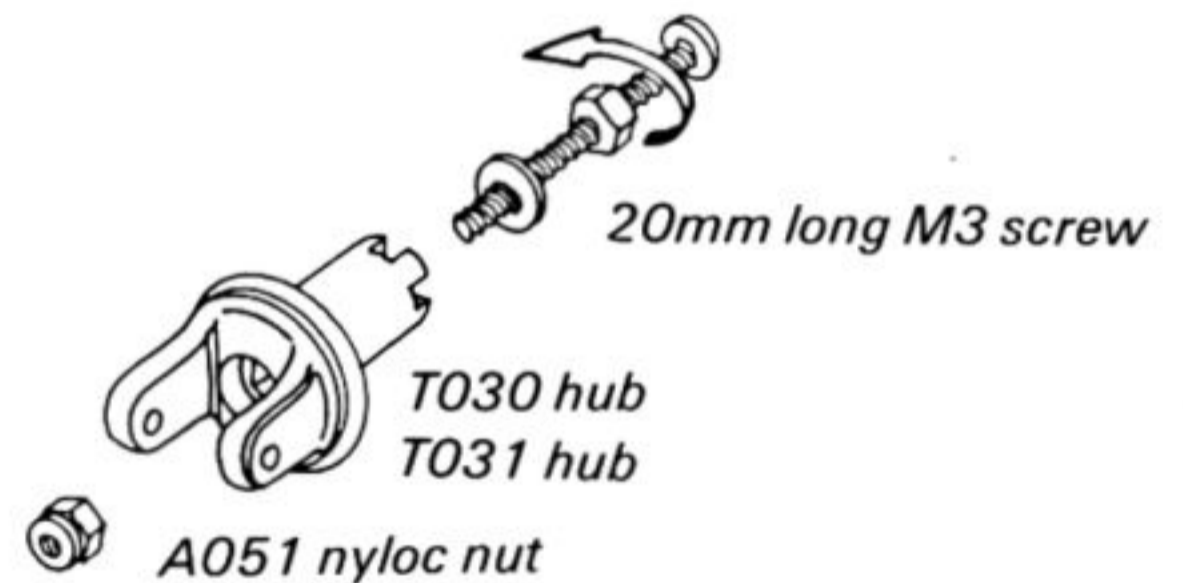
- Self-tap screws No. 2 x 3/16 pan head 
- A220 Steel thrust washer 
- 20mm Long M3 screw 
- A501 Nyloc nut 

1). Fit the round T081 bearing housings using only two No.2 x 3/16 pan head self-tap screws in each housing for the time being. The other two screws will be fitted later when the drive belt is adjusted for correct tension. Note the angular position of the tags which should be the same on each side of the car. The position illustrated will give the slackest belt adjustment. Fit the square bearing housings using only the two No.2 x 3/16 pan head self-tap in each.



2). Using epoxy or superglue fix the T245 friction paper to the A220 steel thrust washer with the smooth surface towards the steel washer. Make sure both washers are concentric and press between two flat surfaces whilst adhesive is curing.

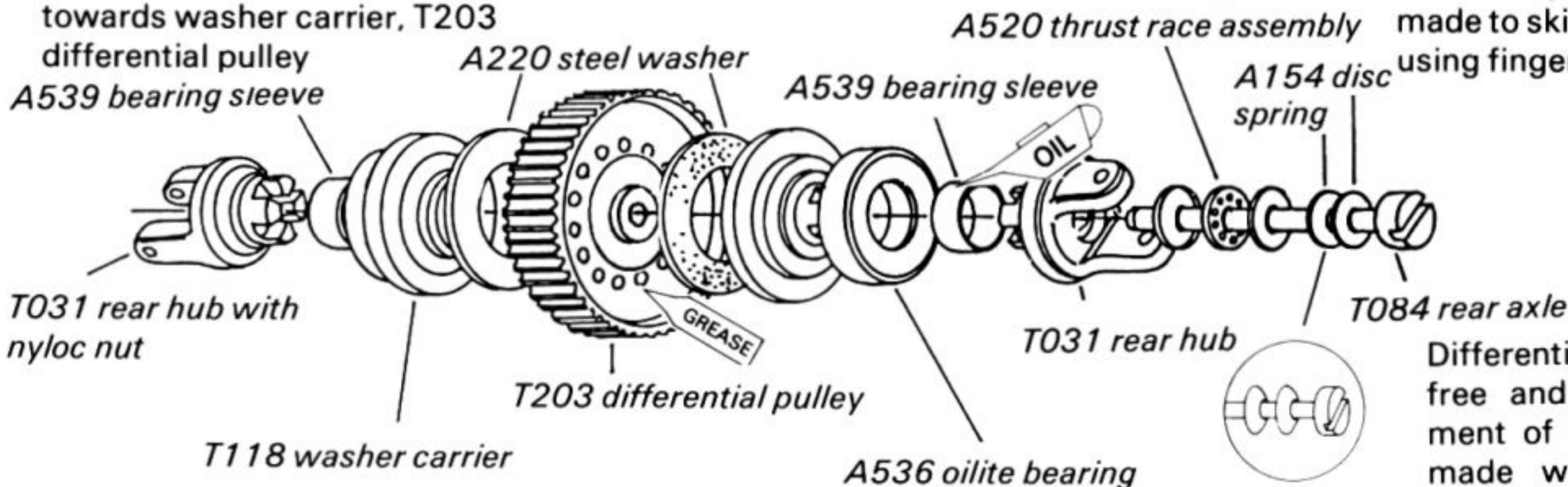
3). Fit A051 nyloc nut into the hexagon recess 2 x T030 wheel hub and 1 x T031 rear hub. Nut is a tight fit and should be pulled into position using a 20mm long M3 screw, washer and nut as shown.



4). Assemble differential parts onto the T084 rear axle as shown and in the following order: T084 axle, A154 disc spring (2 off), A520 thrust race assembly, T031 rear hub, without nyloc nut, A539 bearing sleeve, A536 oilite bearing, (U724 optional ball races replace A539,A536) T118 washer carrier, A220 steel washer towards washer carrier, T203 differential pulley

with 3mm diameter steel balls fitted into the fourteen holes and lightly lubricated with silicone grease, A220 steel washer (with friction paper towards washer carrier) T118 washer carrier, A539 bearing sleeve, A536 oilite bearing (U724 optional ballraces replace A539,A536) and finally, the T031 rear hub with nyloc nut fitted inside. Make sure the dogs

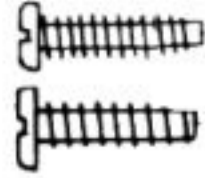
of the washer carriers and the hubs correctly engage and that the thrust washers correctly locate on the spigot of the washer carriers. Screw up the axle until clearance is removed and washers are gently clamped. Whilst holding both hubs, force the pulley to skid round a few times. Apply a little more tension such that pulleys can only be made to skid with some difficulty using finger pressure only.



Differential action should now be free and smooth; (final adjustment of the differential will be made when the car is fully assembled.)

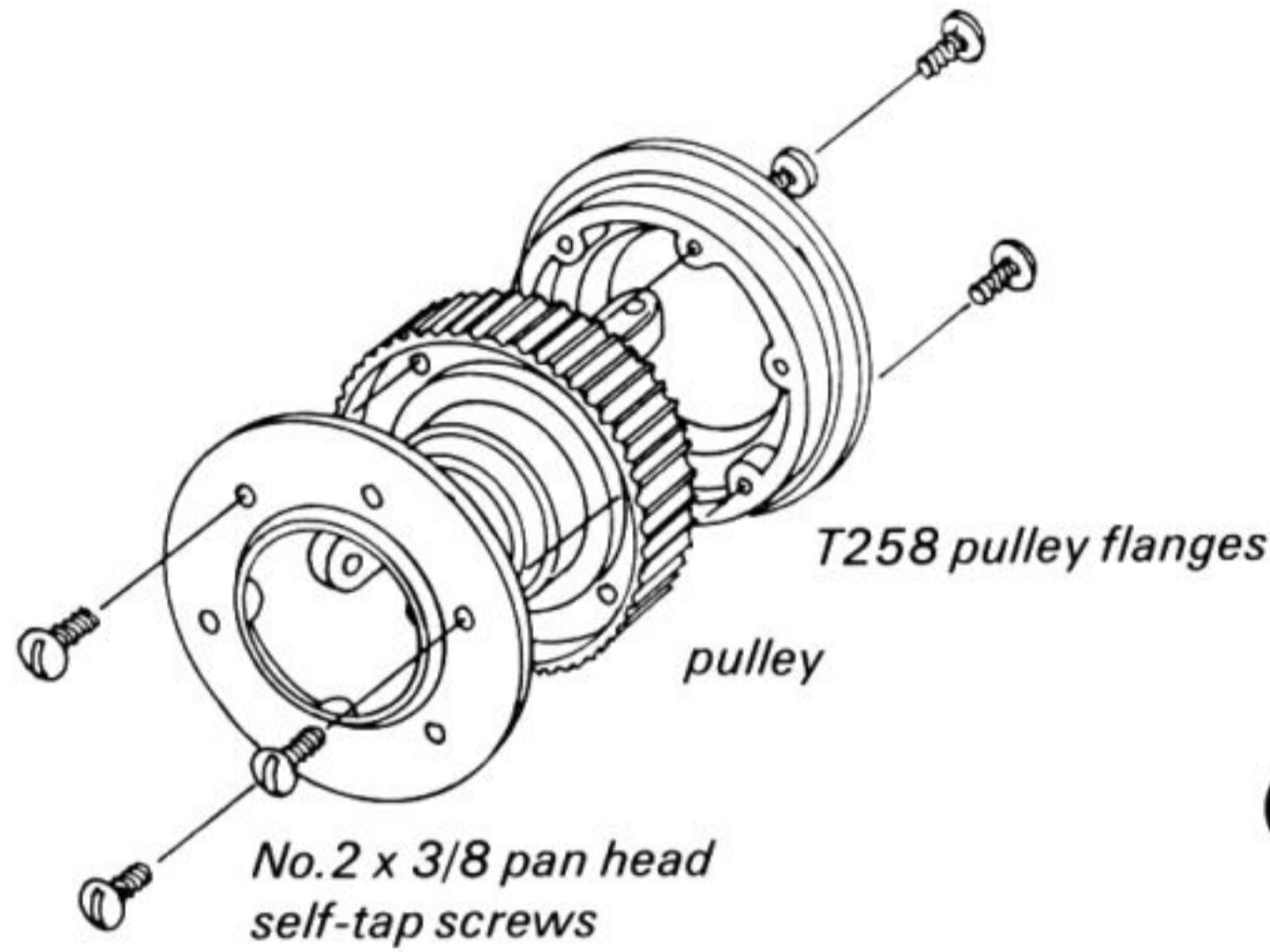
**HARDWARE**

Self-tap screws No.2 x 3/8 pan head  
 Self-tap screws No.4 x 3/8 pan head



**TRANSMISSION ASSEMBLY**

Bag No. U550



5). Fit T258 pulley flanges either side of the pulley and retain with No.2 x 3/8 pan head self-tap screws.



6). Refer to the illustration and fit the four T108 universal joint pivots into the four drive shafts T028 and T027. File the pips off the T131 fibreglass assembly tool before use. First time assembly is made easier by warming the moulded parts in hot water. Once the technique is aquired, joint assembly becomes a simple task.

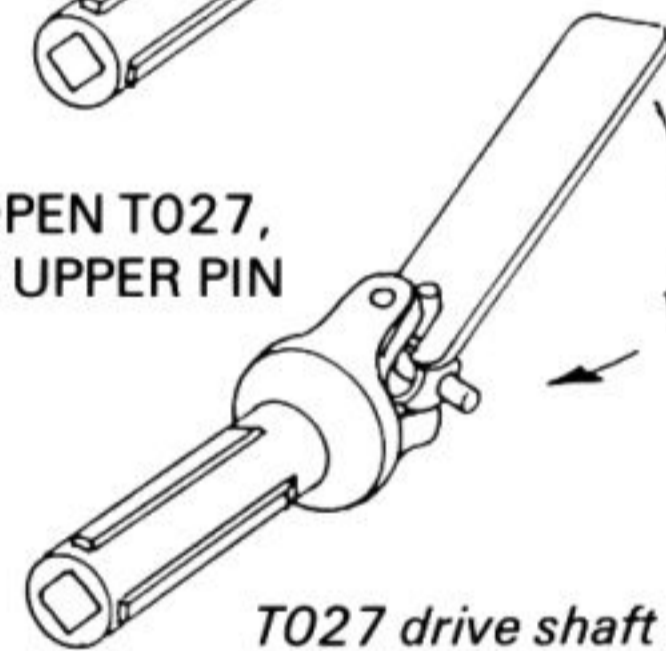
FULLY LOCATE LOWER PIN

T108 universal joint pivot

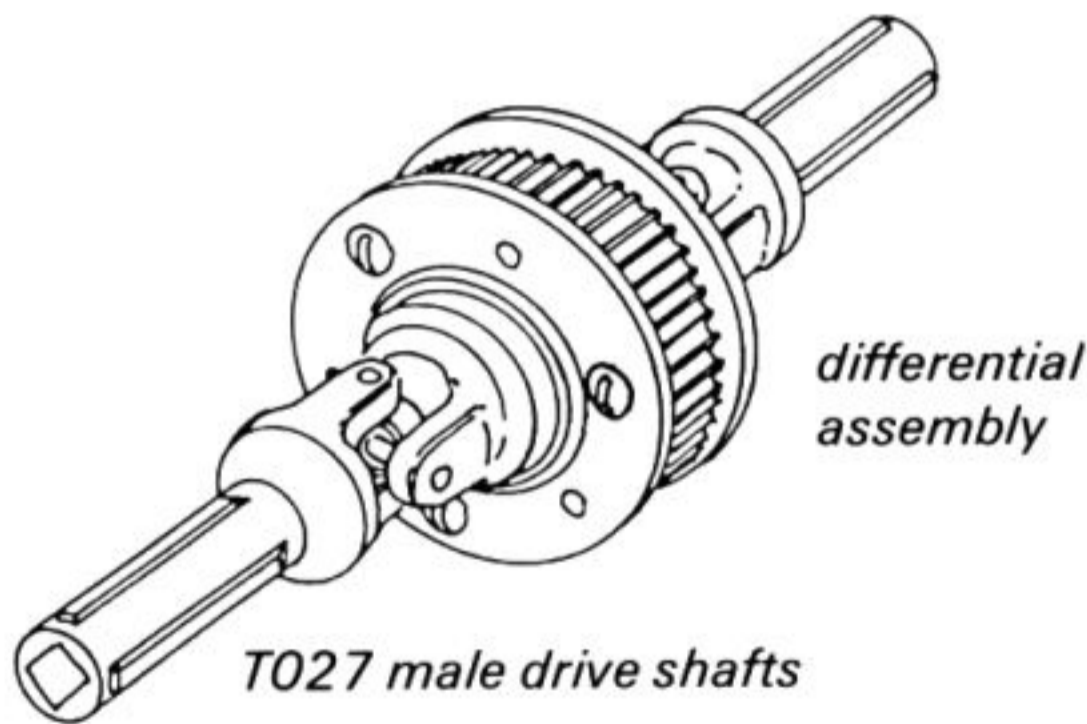


fibreglass assembly tool

PULL DOWN TO OPEN T027,  
 PUSH TO LOCATE UPPER PIN



T027 drive shaft



differential assembly

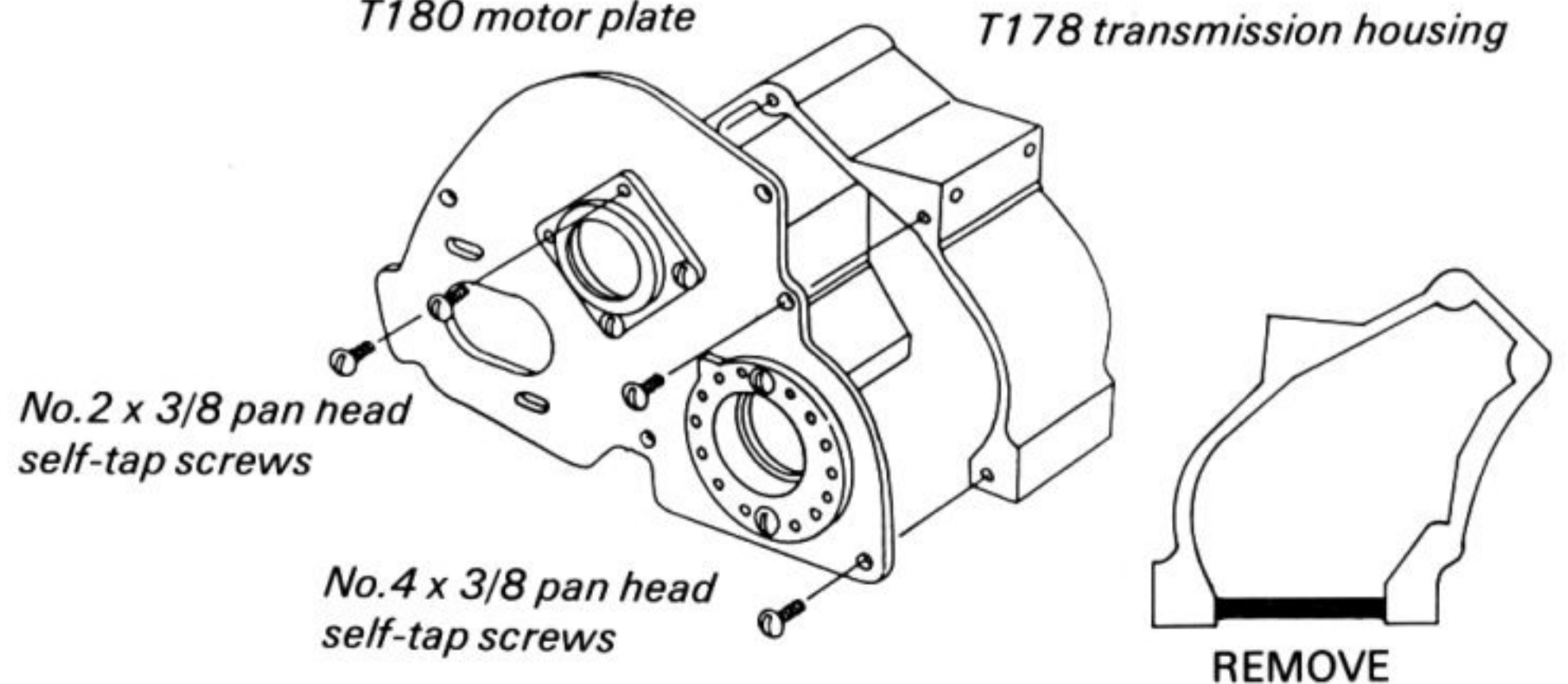
T027 male drive shafts

7). Fit the T027 male drive shaft to the hubs on the differential assembly. (as in b above.)

8). Fit the T180 motor plate to the T178 transmission housing using two No.4 x 3/8 pan head self-tap screws and two No.2 x 3/8 pan head self-tap screws each side. Remove moulding sprue between transmission housing as shown.

T180 motor plate

T178 transmission housing

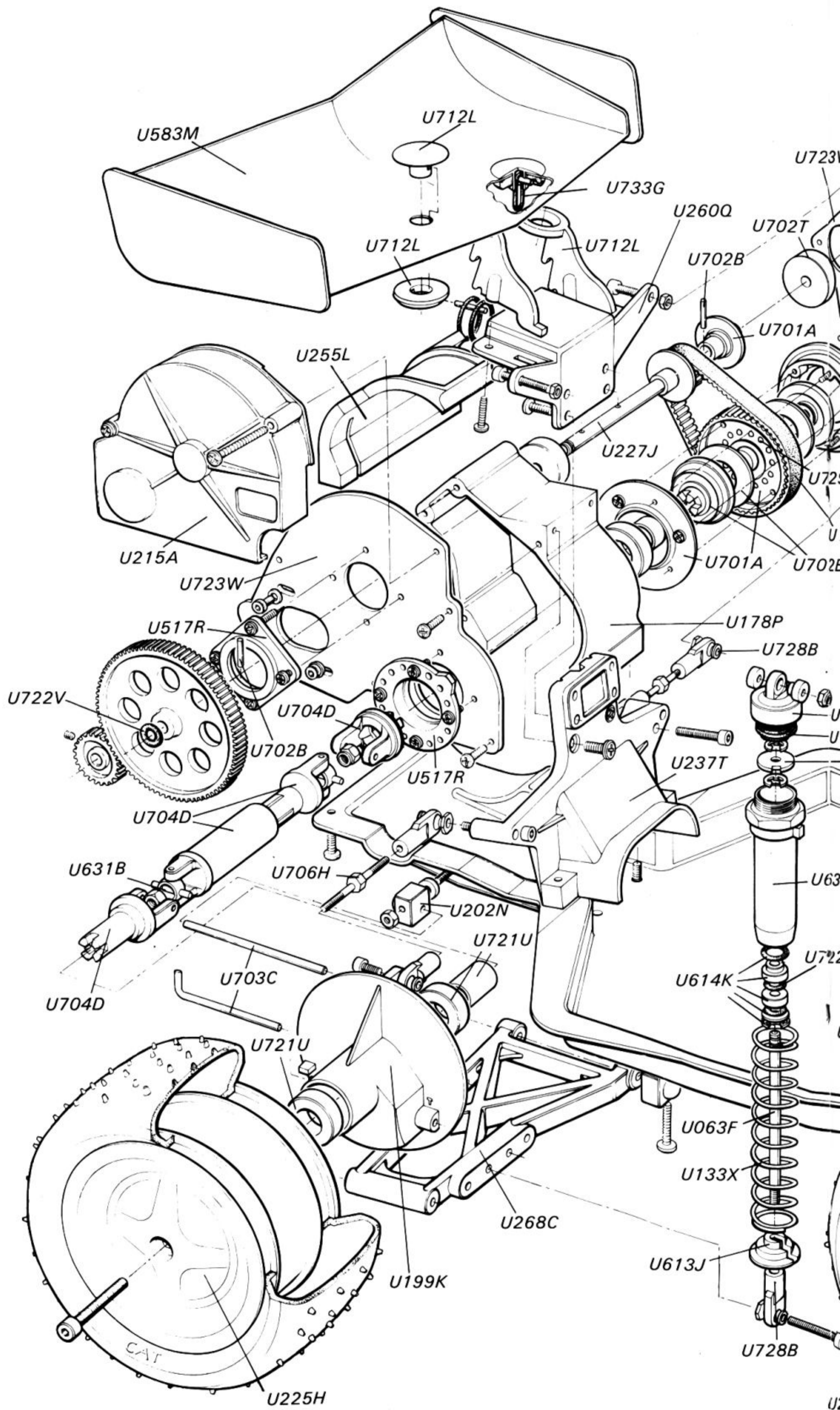


## COUGAR RETAIL PRICE LIST - MARCH 1990

QTY REQ	SPARES NO	DESCRIPTION	PRICE
	★ U415T	COUGAR 2WD COMP ALL TERRAIN	
	U062E	Piston Rods - 16mm Stroke	
	U063F	Piston Rods - 32mm Stroke	
	U084A	Rear Axle	
	U119J	Aerial Tube	
	U122M	Velcro 50 x 20mm (pk of 4)	
	U132W	Spring 0.45 x 8 x 1.5 front (pr)	
	U133X	Spring 0.45 x 11 x 2.5 rear (pr)	
	U162A	Diaphragm Shock Absorber (pk 4)	
	U178P	Transmission Housing 2WD	
	U195G	Hi Torque Drive Belt 72 x 8mm	
	U199K	Rear Hub Carriers (pr)	
	U202N	Pivot Block Rear Wishbone (Pk 4)	
	U215A	Gear Cover - 2WD	
	U221D	Chassis Pan - 2WD - Polished Finish	
	U224G	Front Wheel - Spoked White (pr)	
	U225H	Rear Wheel - Spoked White (pr)	
	U226I	Bush Layshaft Bearing	
	U227J	Layshaft	
	U229L	95T Gear 48 D.P.	
	U230M	92T Gear 48 D.P.	
	U231N	89T Gear 48 D.P.	
	U232O	86T Gear 48 D.P.	
	U233P	19T Pinion 48 D.P.	
	U234Q	22T Pinion 48 D.P.	
	U235R	25T Pinion 48 D.P.	
	U236S	28T Pinion 48 D.P.	
	U237T	Bulkhead - 2WD	
	U254K	Nicad Holder - Stick Pack	
	U255L	Motor Guard - 2WD	
	U260Q	Shock & Wing Mount - 2WD	
	★ U268C	Rear Wishbone - Med W/B	
	★ U343Z	Shock Mount F/G - COUGAR	
	★ U415T	COUGAR 2WD Comp All Terrain	
	★ U418W	COUGAR - Ballraced & Assembled	
	U517R	Bearing Housings Moulding	
	U550F	Transmission Set - 2WD	
	U552H	Rear Suspension Set - 2WD	
	U555K	Shock Absorbers (Set 4) - 2WD	
	★ U558N	Front Suspension - COUGAR	
	★ U583M	Body & Wing - COUGAR	
	★ U584N	Instruction Book Set - COUGAR	
	U613J	Spring Stop & Spacer Moulding	
	U614K	Shock Absorber Seals (4 sets)	
	U627X	Servo Saver Assembly	
	U631B	Universal Joints (8pcs)	
	U636G	M3 Ball Joints Bag (pk 4)	

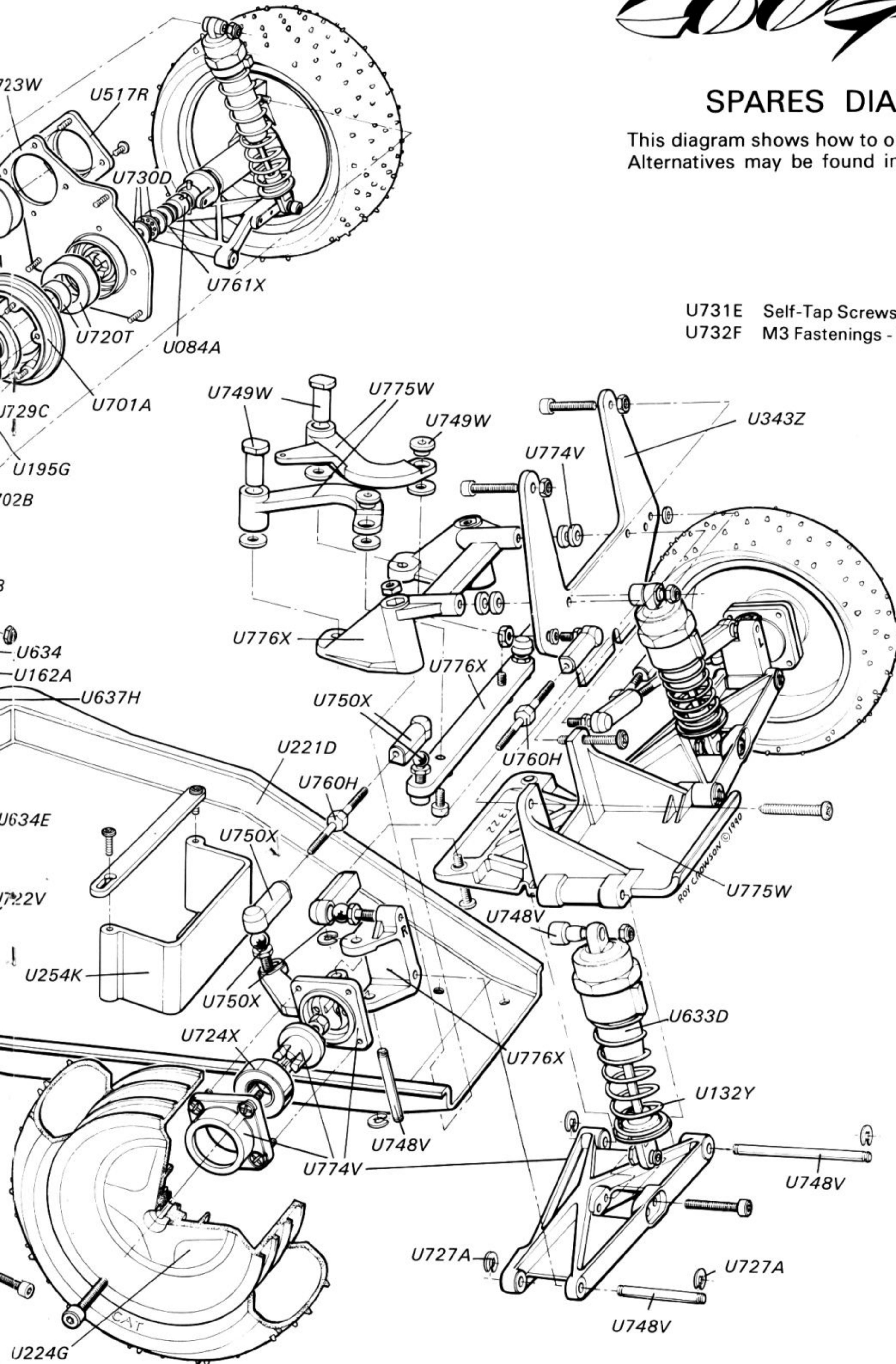
QTY REQ	SPARES NO	DESCRIPTION	PRICE
	U637H	Shock Absorber Pistons (set 4)	
	U700Z	Transmission Fixings Bag - 2WD	
	U701A	Pulley Set - (51T & 21T) - 2WD	
	U702B	Diff. Repair Kit	
	U703C	Rear Suspension Small Parts - 2WD	
	U704D	Drive Shaft Set - 2WD	
	U712L	Wing Mount Kit	
	U717Q	Adjustable Servo Link (2 sets)	
	U720T	Oilite Bearings - Transmission - 2WD	
	U721U	Oilite Bearings - Wheel (pr)	
	U722V	O Ring 1/8" - (pk 10)	
	U723W	Transmission Side Plates - Black	
	U724X	Ball Bearings 8 X 16 X 5 (PK 4)	
	U727A	E Clip 1/8" (pk 10)	
	U728B	M3 Rose Joints (pk 4)	
	U729C	Chrome Steel Balls 3mm Dia (pk 30)	
	U730D	Thrust Race 1/8" x 5/16"	
	U731E	Self Tap Screws - Spares Pack	
	U732F	M3 Fasteners - Spares Pack	
	U733G	O Ring 9mm - Wing Mount (pk 10)	
	★ U748V	Front Susp. Pivot Set - COUGAR	
	★ U749W	Steering Pivot Set - COUGAR	
	★ U750X	Ball Studs & Sockets (8 prs)	
	U760H	Turnbuckle Adj. (2pr)	
	U761I	Disc Spring 1/8" (pk 10)	
	★ U774V	Wishbones & Hub Mouldings - COUGAR	
	★ U775W	Front Plate & Steering Levers - COUGAR	
	★ U776X	Top Bkt. Yokes, Ctr Track Rod - COUGAR	
	★ U777X	Decal Sheet - COUGAR (Pk 2)	
	★ U779A	Servo Tape - 1 Metre Roll	
<b>ACCESSORIES</b>			
	★ U200L	Rear Wishbones - Long W/B	
	★ U344A	Long Front Shock Mount - COUGAR	
	U633D	Front Shocks Assembled (pr)	
	U634E	Rear Shocks Assembled (pr)	
	U737K	Lightweight St St Bearings - A533 (pr)	
	U739M	Rear Anti-roll Bar - 2WD	
	U743Q	Q.C. Saddle Pack Tray & Strap (pr)	
	U745S	Super Diff - 2WD	
	U7670	Front Spring Tuning Set - 4 rates	
	U768P	Rear Spring Tuning Set - 4 rates	
	U770R	Slipper Clutch 2 & 4 WD	
	G3141	Baseball cap - one size	
	G318M	T-Shirt New CAT Logo	
	G319N	Sports Shirt - New CAT Logo	
	G320O	Sweat Shirt - New CAT Logo	
★ STARRED ITEMS ARE NEW FOR COUGAR			

**AVAILABLE FROM ALL GOOD MODEL SHOPS**



**SPARES DIAGRAM**

This diagram shows how to order your spares. Alternatives may be found in the spares list.



- U731E Self-Tap Screws - Spares Pack
- U732F M3 Fastenings - Spares Pack





COUGAR SPARES LIST



PART NO	QTY IN BAG	SPARES BAG NO
A010	2	U732F
A010	2	U703C
A023	2	U749W
A028	2	U732F
A028	2	U703C
A030	2	U732F
A030	2	U703C
A032	2	U749W
A035	2	U732F
A035	2	U700Z
A038	2	U555K
A038	4	U633D
A038	2	U634E
A039	2	U748V
A039	2	U732F
A039	4	U555K
A040	2	U700Z
A040	4	U732F
A048	2	U555K
A048	2	U633D
A048	2	U634E
A048	3	U703C
A048	4	U732F
A048	2	U748V
A051	2	U555K
A051	2	U634E
A051	3	U700Z
A051	8	U732F
A051	1	U745S
A051	2	U748V
A093	2	U703C
A095	2	U760H
A103	4	U634E
A103	4	U633D
A103	12	U748V
A103	10	U727A
A103	6	U705E
A103	10	U614K
A103	12	U555K
A131	4	U614K

PART NO	QTY IN BAG	SPARES BAG NO
A131	4	U555K
A141	1	U700Z
A143	1	U703C
A154	2	U700Z
A180	1	U700Z
A181	8	U614K
A181	8	U555K
A181	10	U722V
A185	4	U614K
A185	4	U555K
A190	2	U712L
A190	10	U733G
A206	3	U703C
A206	2	U633D
A206	4	U555K
A206	4	U555K
A208	2	U555K
A209	4	U614K
A209	4	U555K
A220	2	U702B
A220	2	U745S
A225	4	U732F
A225	4	U732F
A225	2	U700Z
A225	4	U749W
A230	4	U614K
A230	2	U555K
A301	12	U731E
A301	12	U700Z
A304	12	U731E
A304	10	U700Z
A304	6	U701A
A323	12	U731E
A323	2	U712L
A323	8	U703C
A323	8	U700Z
A323	2	U254K
A326	2	U703C
A326	4	U731E
A326	2	U700Z

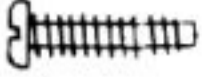
PART NO	QTY IN BAG	SPARES BAG NO
A333	8	U731E
A333	4	U700Z
A401	1	U227J
A401	1	U702B
A405	3	U702B
A407	2	U712L
A412	2	U703C
A417	2	U703C
A424	4	U717Q
A500	15	U702B
A500	30	U729C
A500	15	U745S
A520	1	U702B
A520	1	U730D
A520	1	U745S
A533	4	U724X
A536	2	U720T
A536	4	U721V
A536	2	U550F
A538	2	U721U
G305	1	U779A
S603	1	U777Y
S604	1	U583M
S604	1	U584N
T027	2	U704D
T028	2	U704D
T030	2	U704D
T031	2	U704D
T059	4	U555K
T060	2	U555K
T061	2	U555K
T062	2	U062E
T062	2	U555K
T062	2	U633D
T063	2	U062E
T063	2	U555K
T063	2	U634E
T081	2	U517H
T082	1	U517H
T083	1	U517H

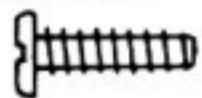
PART NO	QTY IN BAG	SPARES BAG NO
T084	1	U084A
T084	1	U550F
T090	4	U613J
T092	4	U613J
T093	4	U613J
T094	4	U613J
T095	4	U613J
T096	2	U637H
T097	2	U637H
T108	8	U631B
T117	1	U633D
T117	2	U555K
T118	2	U702B
T119	1	U119J
T122	4	U122M
T131	1	U550F
T132	2	U132U
T132	2	U555K
T133	2	U133X
T133	2	U555X
T158	4	U555X
T158	4	U614K
T159	4	U614K
T159	4	U555X
T162	4	U162A
T162	4	U555X
T162	4	U164K
T178	1	U178P
T178	1	U550F
T179	1	U723W
T179	1	U550F
T180	1	U723W
T180	1	U550F
T180	1	U195G
T195	1	U550F
T196	1	U701A
T197	1	U701A
T199	2	U199K
T199	2	U552H
T202	2	U202
T202	4	U552H

PART NO	QTY IN BAG	SPARES BAG NO
T203	1	U701A
T205	2	U774V
T226	4	U226I
T228	2	U748V
T229	1	U550F
T229	1	U229L
T234	1	U550F
T234	1	U234Q
T237	1	U237T
T237	1	U552H
T238	2	U634E
T238	2	U633D
T238	4	U278B
T238	4	U703C
T238	4	U555K
T239	4	U703C
T239	4	U555K
T239	4	U555K
T239	4	U555K
T239	4	U634E
T239	4	U633D
T242	2	U749W
T243	2	U702B
T243	2	U745S
T252	1	U717Q
T254	1	U254K
T255	1	U550F
T255	1	U255L
T258	2	U701A
T260	1	U260Q
T260	1	U552H
T261	2	U712L
T262	2	U712L
T263	2	U712L
T268	2	U268C
T320	1	U750X
T321	8	U750X
T322	1	U775W
T323	1	U776X
T328	2	U774V
T330	2	U774V
T332	1	U776X
T334	1	U776X

PART NO	QTY IN BAG	SPARES BAG NO
T335	1	U776X
T336	4	U774V
T338	2	U774V
T339	2	U748V
T340	1	U775W
T341	1	U775W
T342	2	U749W
T343	1	U558N
T343	1	U343Z
T353	2	U748V
T517	1	U550F
T517	1	U517R
T550	1	U550F
T552	1	U552H
T555	1	U555K
T558	1	U558N
T613	1	U613J
T613	1	U633D
T613	1	U634E
T614	1	U555K
T637	1	U637H
T637	1	U634E
T637	1	U555K
T700	1	U550F
T701	1	U701A
T701	1	U550F
T702	1	U550F
T703	1	U552H
T704	1	U550F
T707	1	U558N
T709	1	U558N
T712	1	U552H
T735	1	U712L
T748	1	U558N
T749	1	U558N
T774	1	U558N
T774	2	U774V
T775	1	U558N
T775	1	U775W
T776	1	U558N
T776	1	U776X

HARDWARE

Self tap screw No.2 x 3/8 pan head 

Self tap screw No.4 x 3/8 pan head 

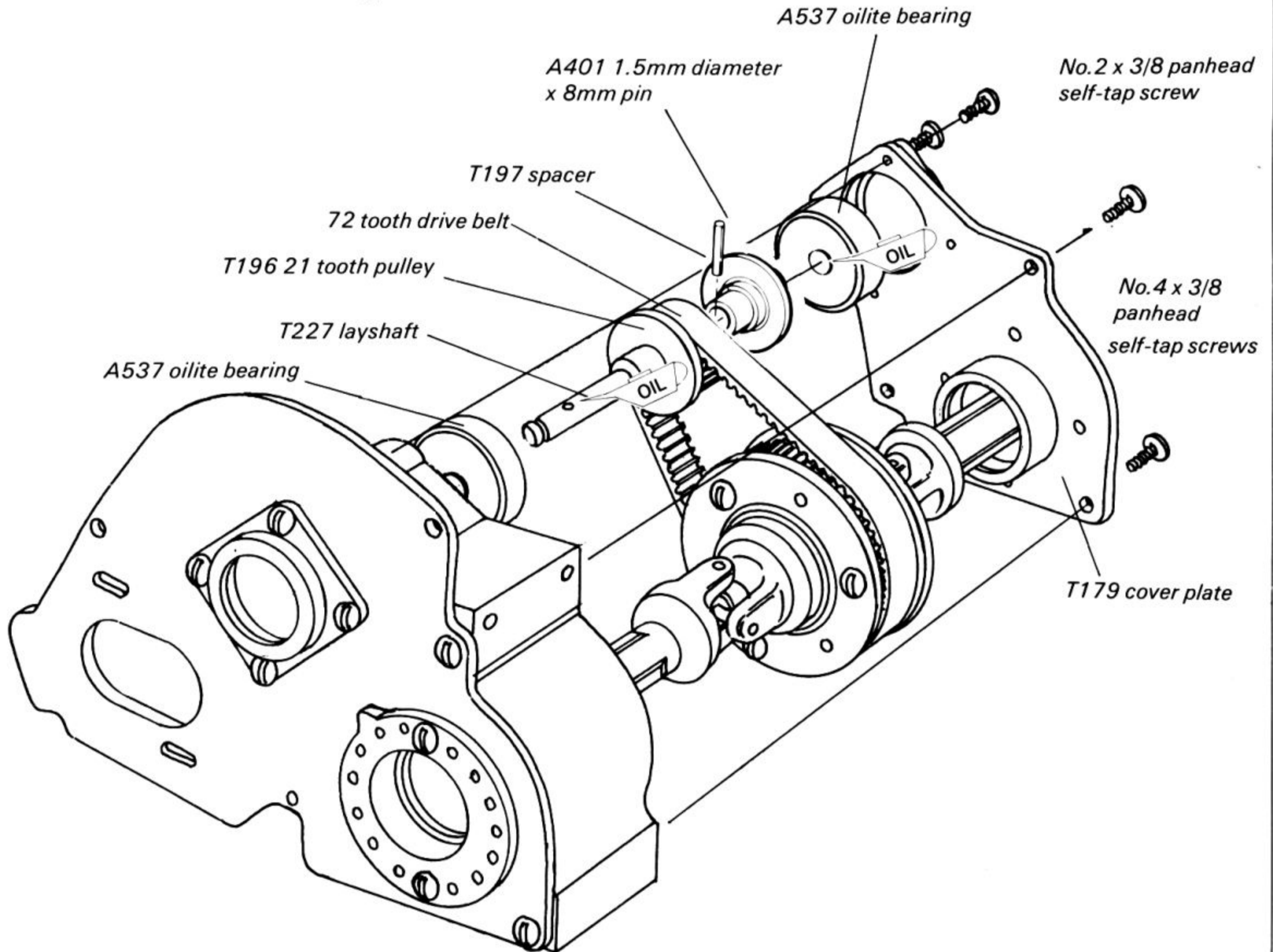
 **Schumacher**

**COURSER**

**TRANSMISSION ASSEMBLY**

Bag No. U550

9). Fit A537 oilite bearings into the square bearing housings (optional U724 ballraces with T226 bushes replace A537. T226 not used with oilite bearing)

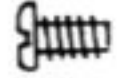
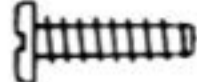


10). Assemble T227 lay shaft, A401 1.5mm diameter x 8mm pin, T196 21 tooth pulley and T197 spacer.

11). Fit 72 tooth drive belt around layshaft and differential assemblies and slide into position inside transmission housing. Make sure that the slotted head of the T084 rear axle is on the cover plate side. This will allow easier adjustment of the differential when the car is fully assembled.

12). Fit cover plate using No.4 x 3/8 and No.2 x 3/8 pan head self-tap screws. Transmission assembly should now spin freely.

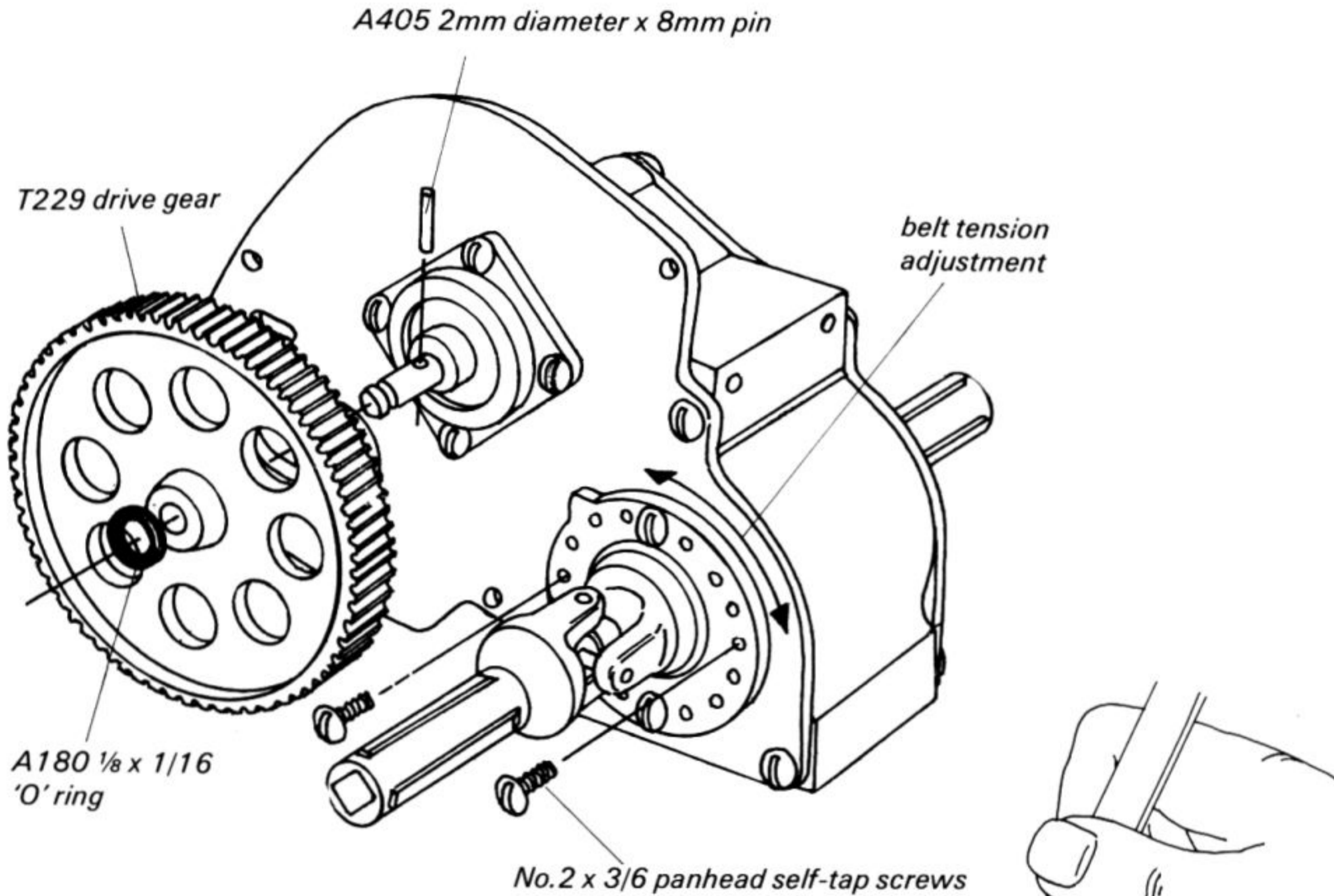
HARDWARE

No.2 x 3/16 pan head self-tap screws   
No.4 x 3/8 pan head self-tap screw 

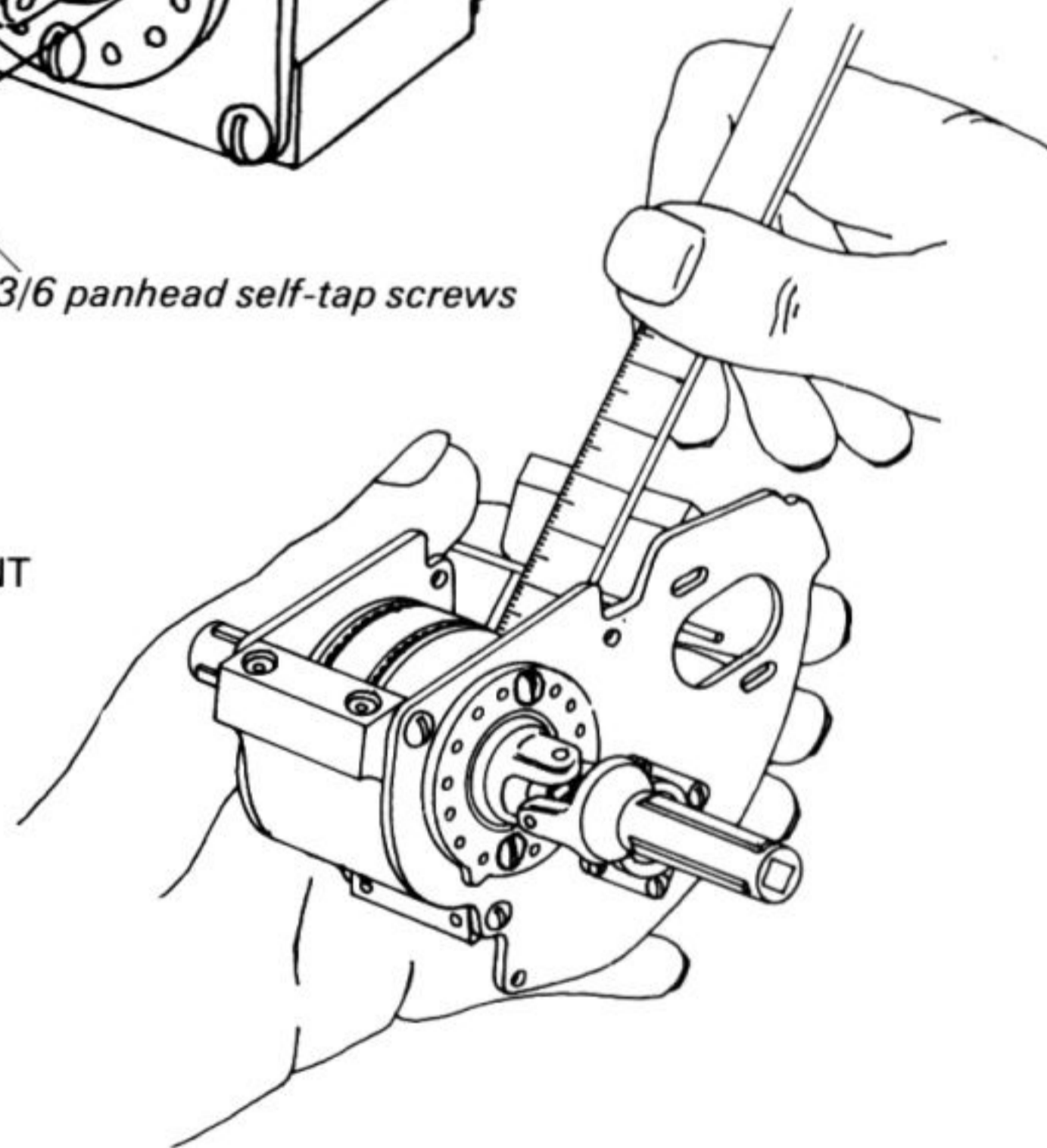
**TRANSMISSION ASSEMBLY**

Bag No. U550

13). Fit T229 drive gear, A405 2mm diameter x 8mm pin and retain with A180 1/8 x 1/16 'O' ring.



**BELT TENSION ADJUSTMENT**



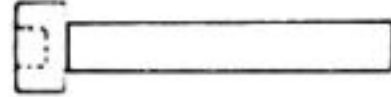
14).

Check belt tension by flexing rear part of transmission housing outwards as shown. Gently press on the belt midway between the pulleys, there should be 1-2mm of deflection. If there is too much remove the screws retaining the T081 eccentric bearing housings and rotate clockwise on the right hand side and anti-clockwise on the left hand side to increase the

tension. At least two fully tightened screws must be fitted to each bearing housing whilst checking belt tension. Both bearing housings should be in the same position and then all four screws should be fitted. Re-check the belt tension after all screws are fully tightened. Finally bend transmission housing back to normal position and fit the two remaining No.4 x 3/8 panhead screws.

HARDWARE

A040 M3 x 20mm Cap head screw



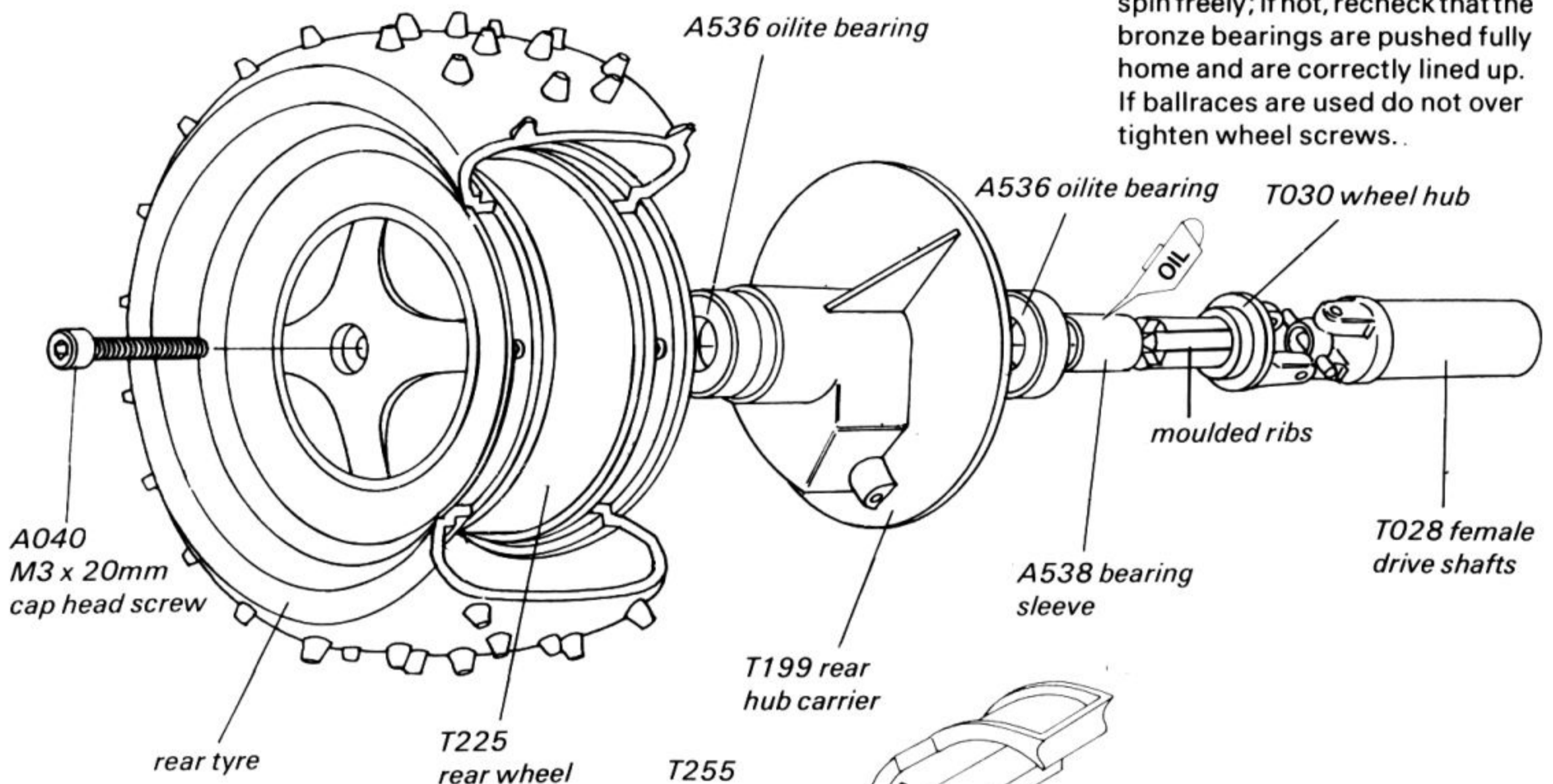
**TRANSMISSION ASSEMBLY**

Bag No. U550

15). Fit the T028 female drive shafts to the T030 wheel hubs and assemble the A538 bearing sleeves (optional U724 ballraces replace A538 & A536 oilite bearing). Sleeves may be tight on hubs, if necessary scrape off moulded ribs on hubs to ease assembly.

16). Press A536 oilite bearings (optional U724 ballraces replace A538 & A536 oilite bearing) into each end of the rear hub carriers making sure that they are both seated against the bearing abutment in the bore.

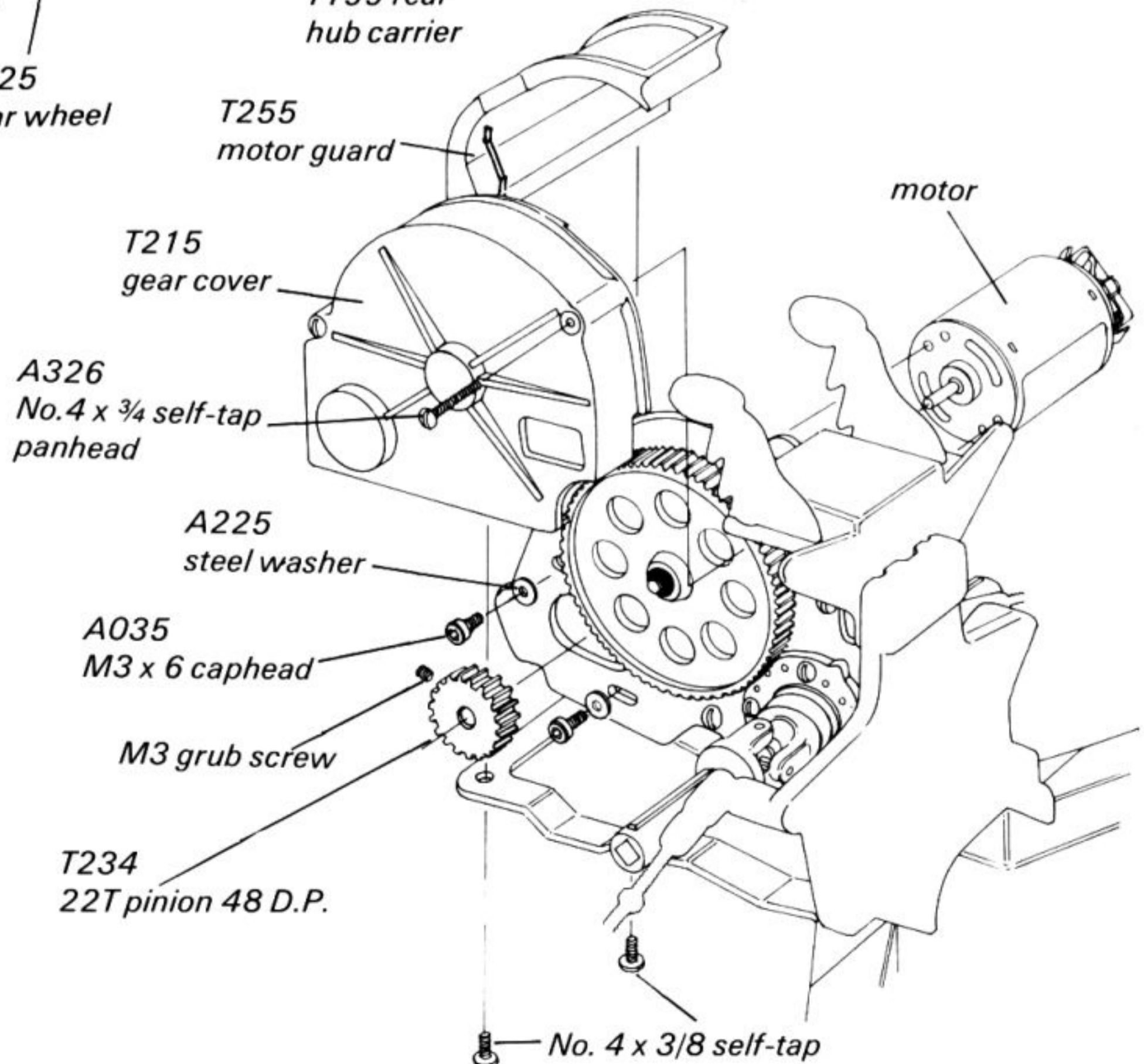
17). Apply a little light oil to the bearing sleeves; assemble into the hub carriers and fit the rear wheels using A040 M3 x 20 cap head screw. Hold the wheel hub whilst pushing the wheel into place in order to feel the engagement of the drive dogs before tightening the wheel retaining screw. Wheel must now spin freely; if not, recheck that the bronze bearings are pushed fully home and are correctly lined up. If ballraces are used do not over tighten wheel screws.



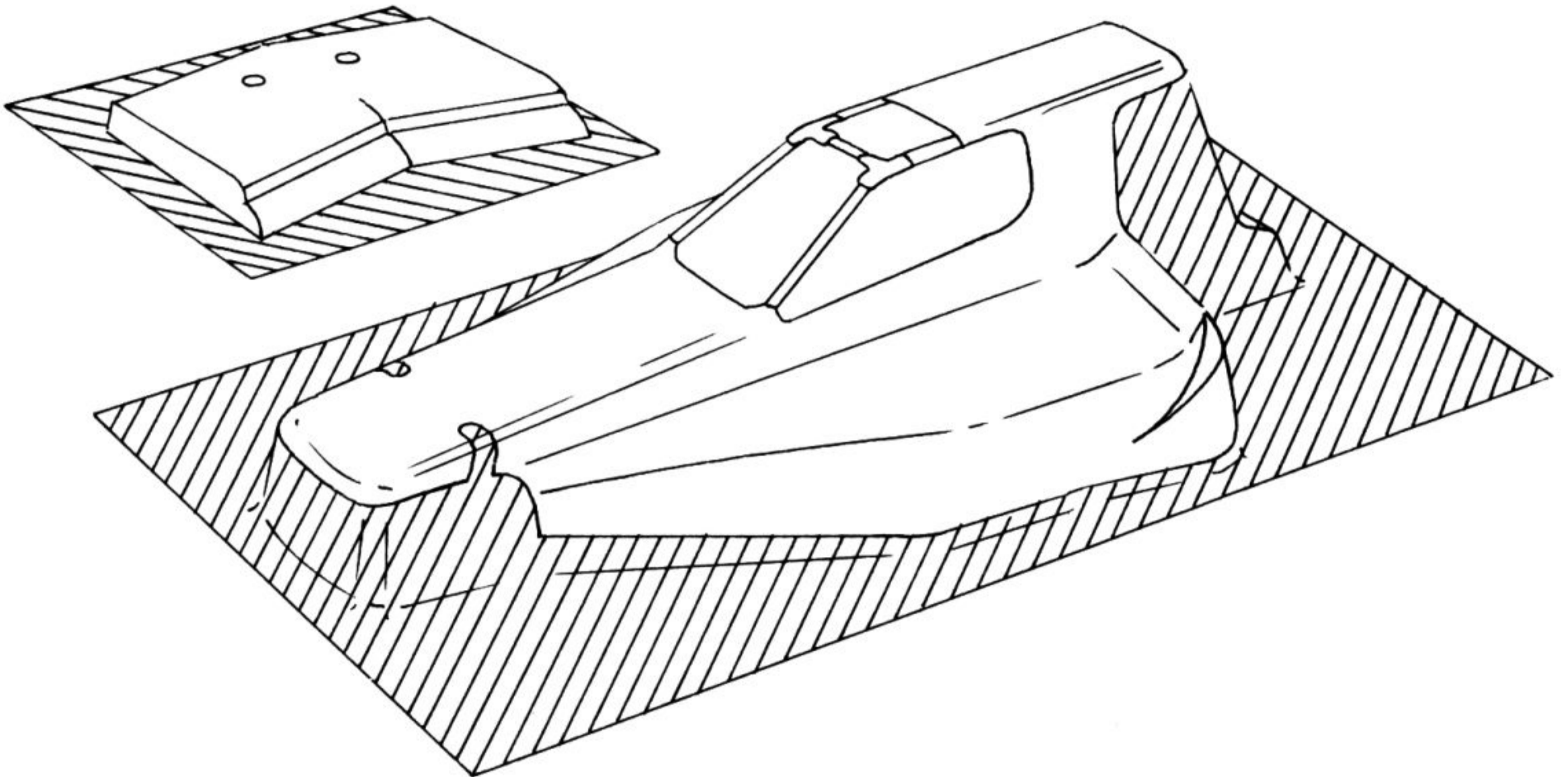
18). Fit motor using M3 x 6 cap head screws & washers and fit T234 pinion ensuring the grub screw clamps against the flat on the motor spindle. Make sure the pinion and gear are in line. Set motor position so that gears fully mesh but do not bind, check by rotating gears several times. Fit T215 gear cover using No.4 x 3/8 self-tap screws.

Fit transmission assembly to chassis using No.4 x 3/8 counter-sunk head self-tap screws in the chassis and No.4 x 3/8 pan head self-tap screws in the bulkhead. (see main exploded diagram).

Finally fit T255 motor guard using No.4 x 3/8 pan head self-tap screws making sure that motor plate engages in the slot.



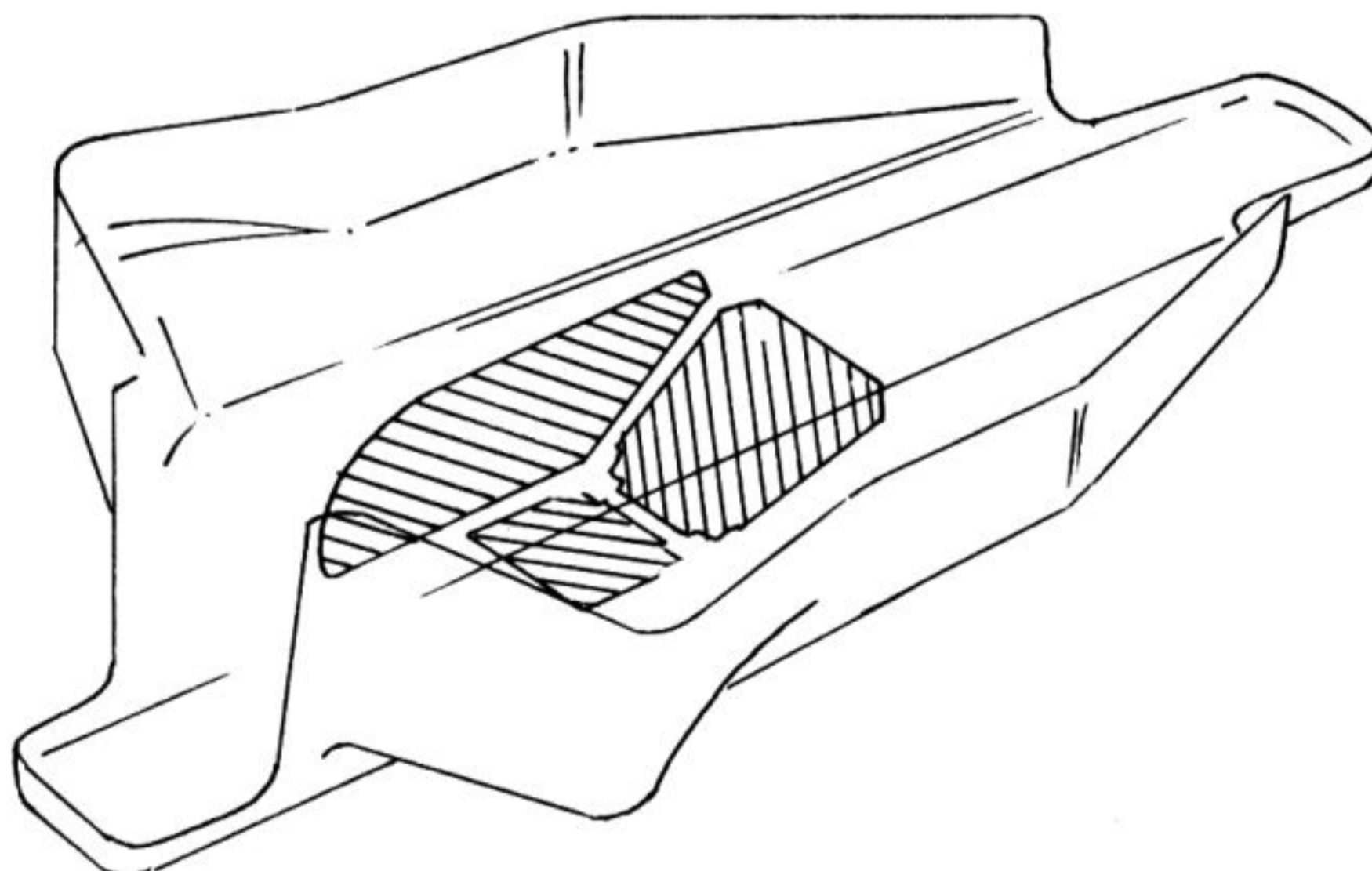
BODY & WING  
(cut away shaded areas)



**PAINTING**

First, wash the body to remove any oil or dirt. Rinse thoroughly. Paint the inside of the body & wing. You can obtain a colour scheme by masking a portion with tape then removing the tape and painting. Apply the lightest colour last, apply decals from the sheet supplied to finish your bodyshell.

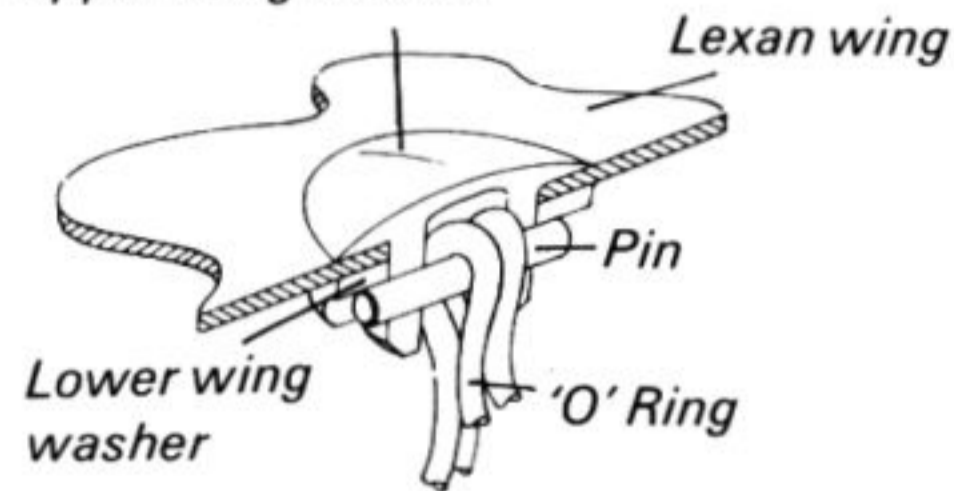
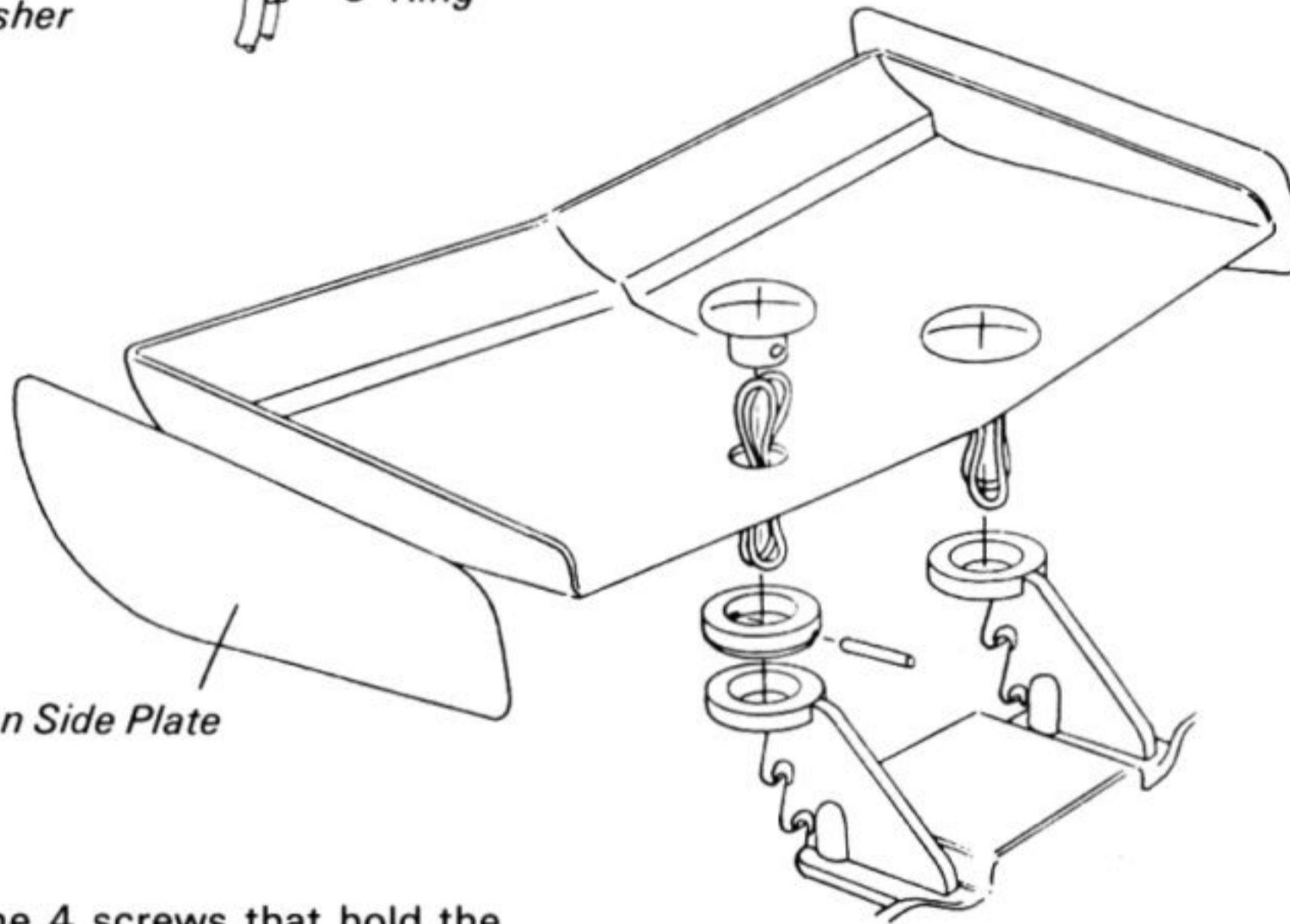
WINDOW MASKS FOR  
PAINTING BODYSHELL



*apply S604 window  
masks as shown*



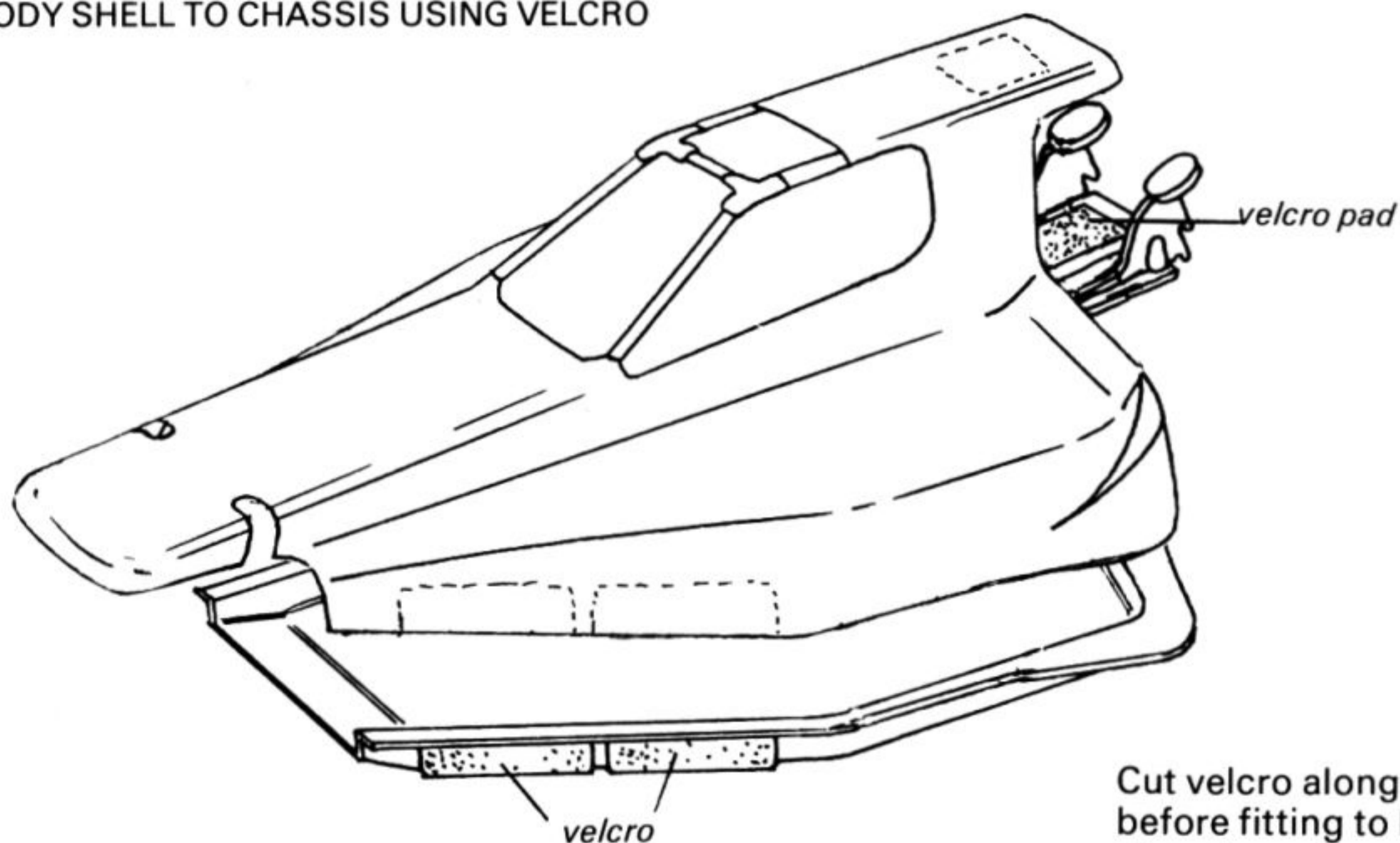
*lexan  
paint*

**FITTING REAR WING***Upper wing washer**Lower wing washer**Lexan wing**Pin**'O' Ring**Lexan Side Plate*

Cut out wing and side plates from lexan moulding and mask and paint as described for the bodyshell. Drill two holes 7mm dia in the positions shown. Insert T261 upper wing washer from the top and fit T262 lower wing washer from below. Insert two A190 'O' rings and A407 pin so that the 'O' rings are retained by the pin as shown in the cross section diagram. Repeat for the other hole. Fit wing to car by pushing 'O' rings through hole in T263 wing bracket and hooking over either of the lugs.

Loosen the 4 screws that hold the T260 wing mount to the T237 bulk-head to enable the T119 aerial to be inserted.

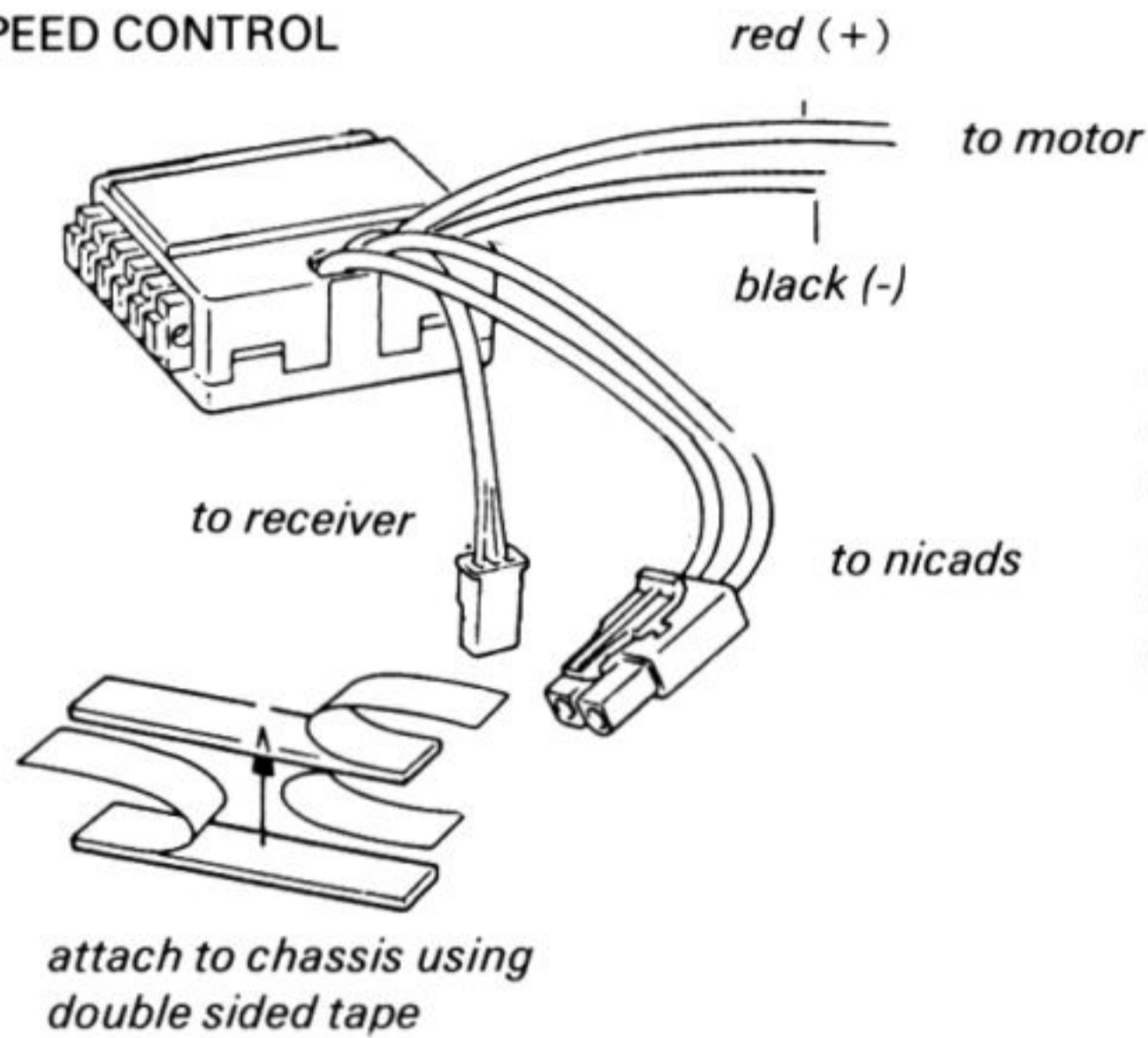
Fix wing sideplates using double sided tape.

**FITTING BODY SHELL TO CHASSIS USING VELCRO**

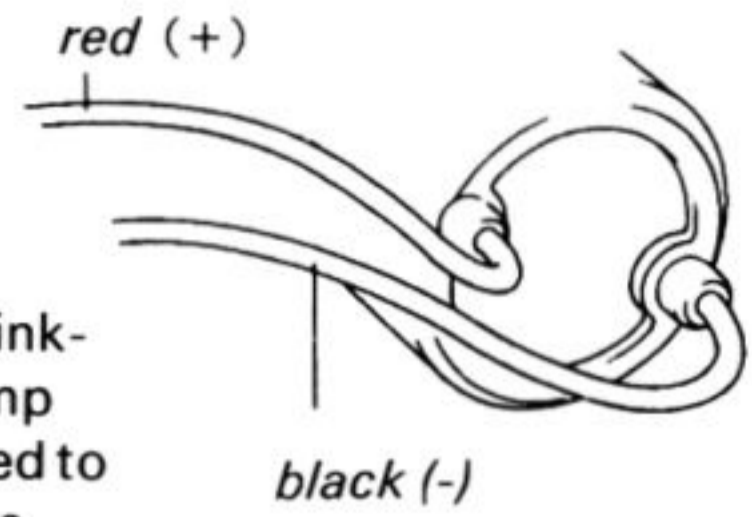
Cut velcro along its length before fitting to body & chassis.

ARRANGEMENT OF RADIO EQUIPMENT

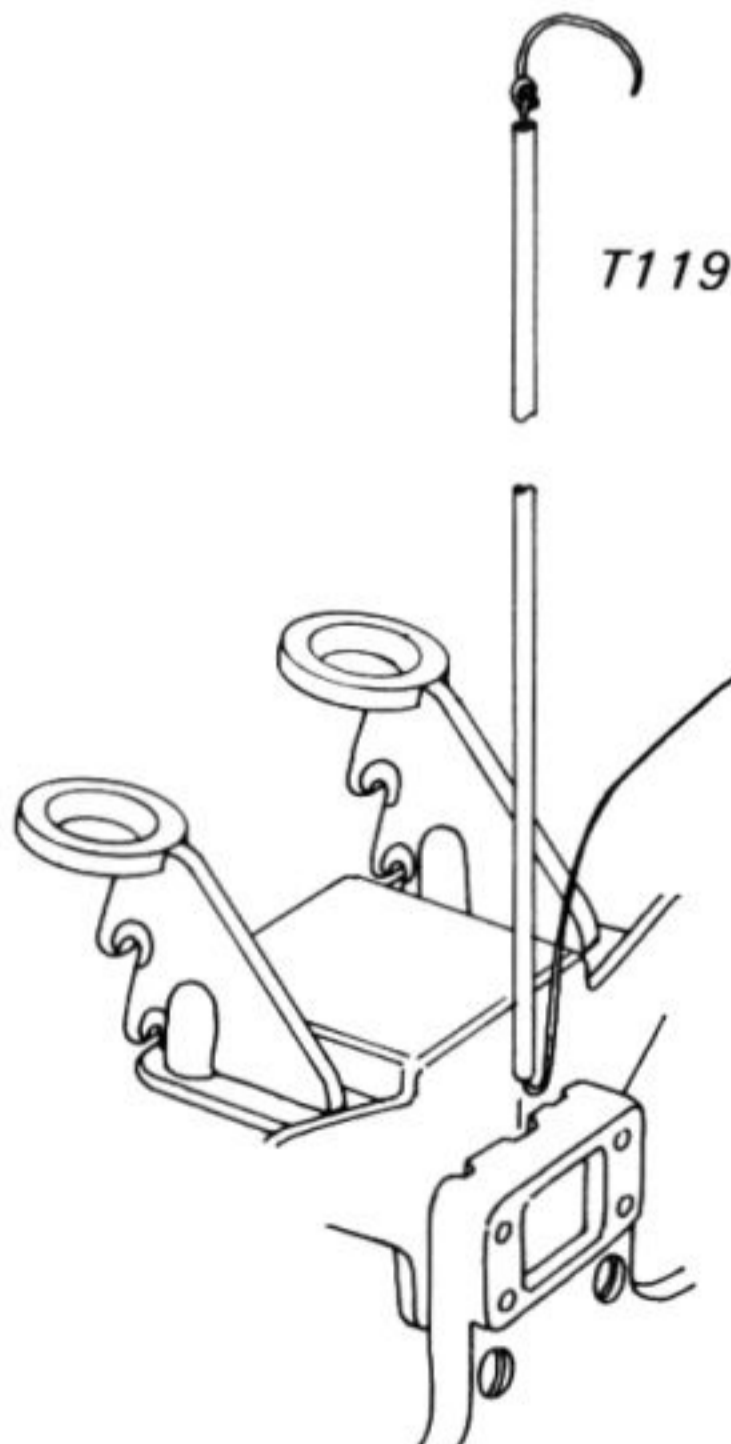
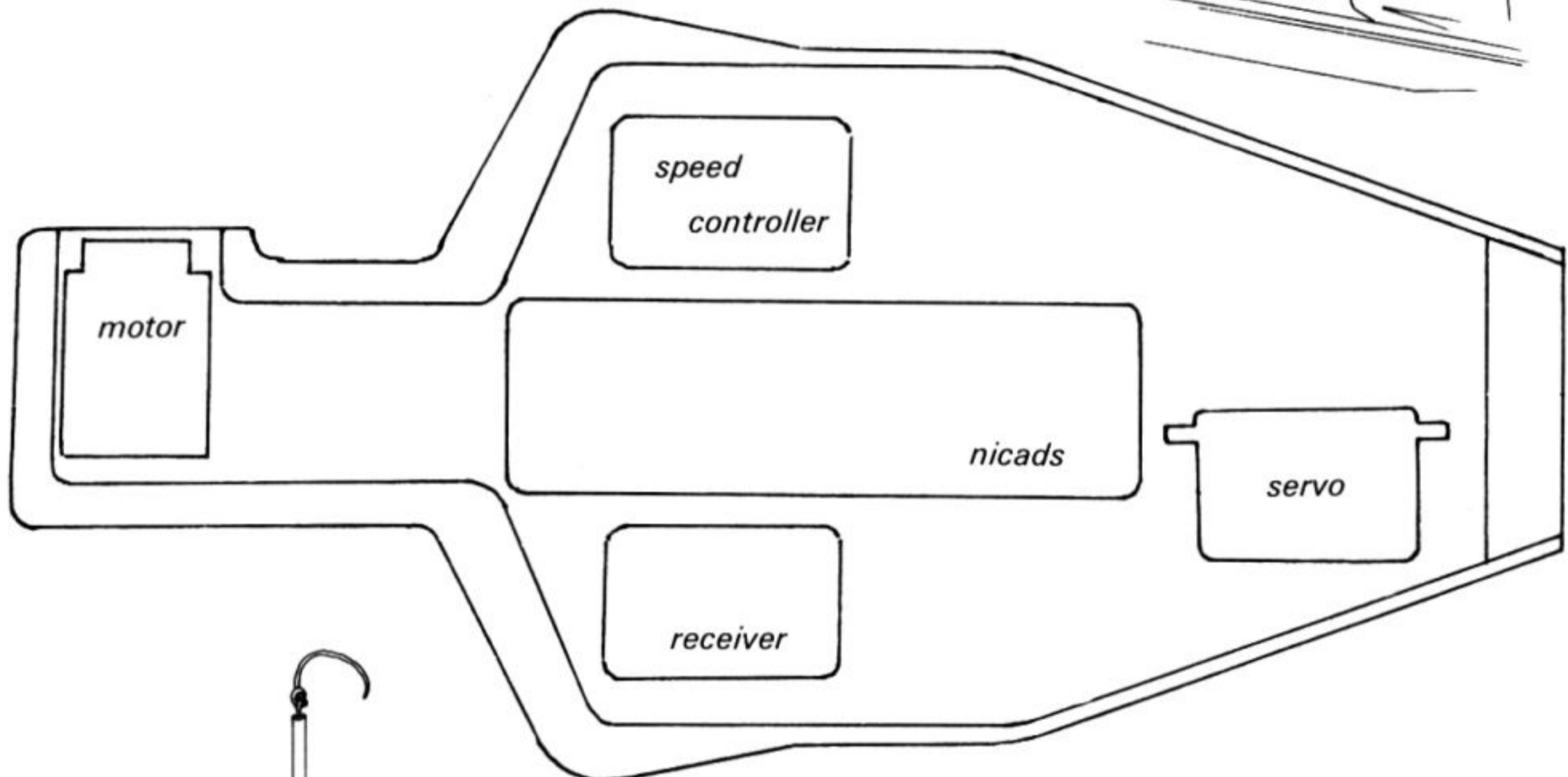
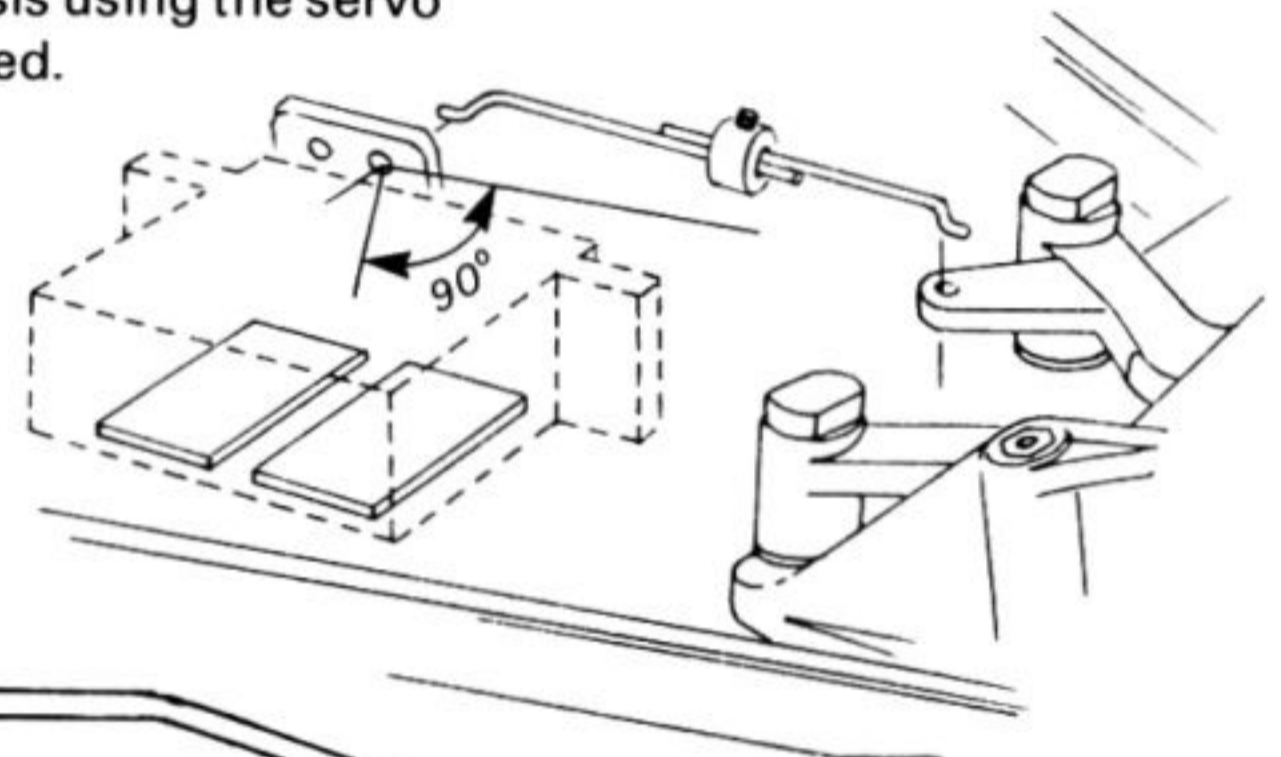
SPEED CONTROL



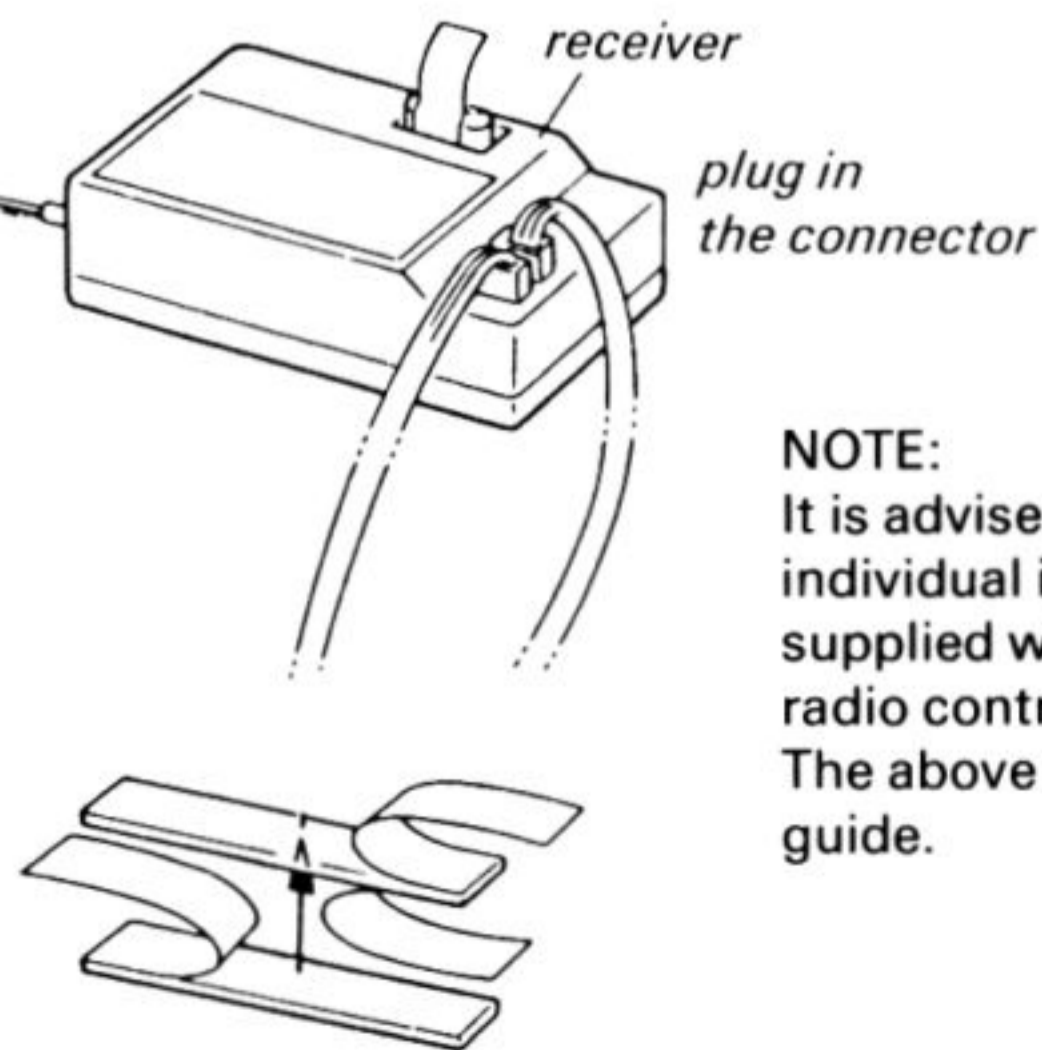
MOTOR



Using the two A424 link-wires and T252 wire clamp the servo can be connected to the T340 steering lever as shown. The servo can be fixed to the chassis using the servo tape provided.



T119

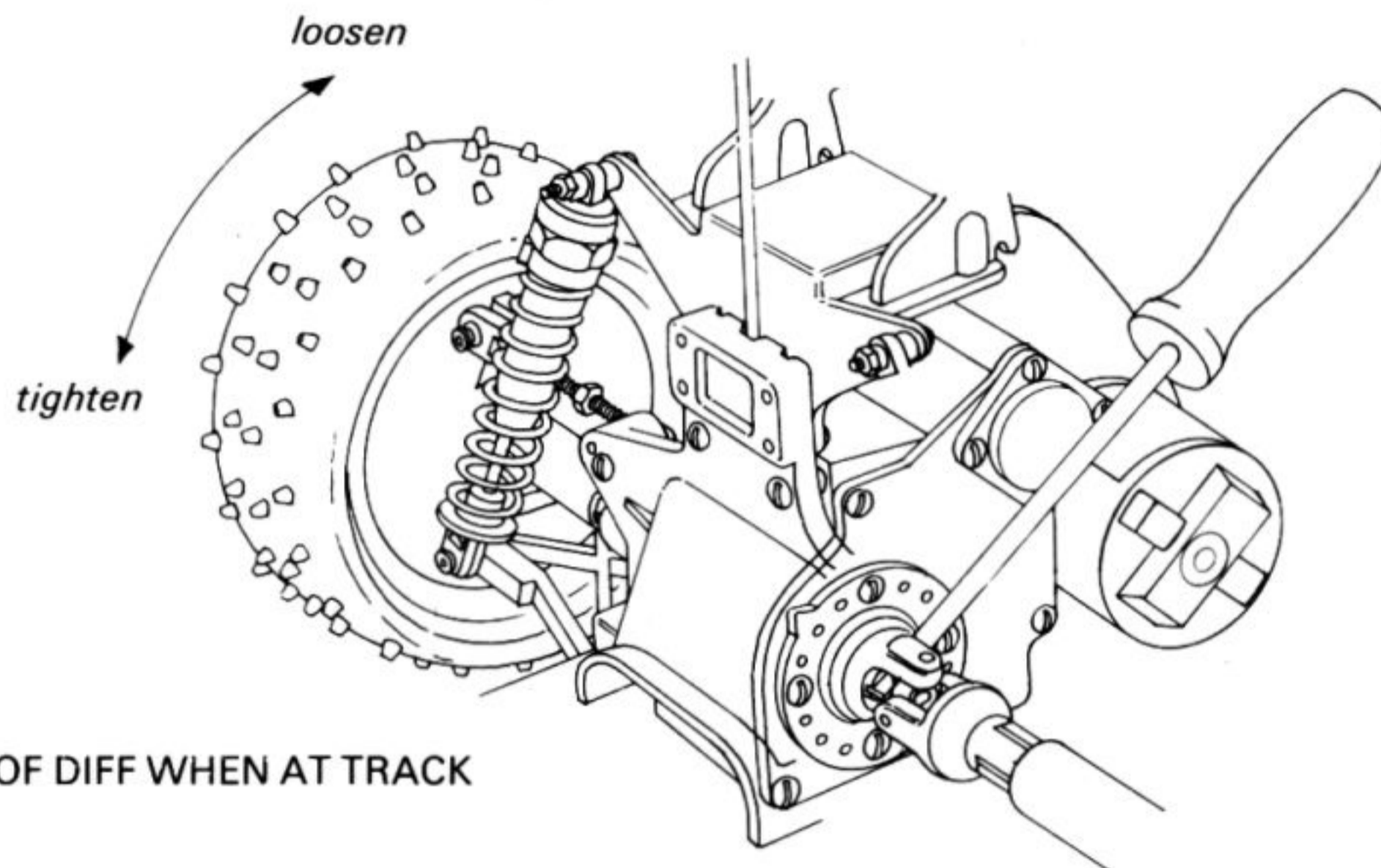


**NOTE:**  
It is advised to consult the individual instruction sheets supplied with your own type of radio control and speed controls. The above diagrams are only a guide.

- 1) Make sure all screws are tight. Recheck after every race.
- 2) Differential adjustment

The differential should not slip under normal use. The correct tension is sufficient to give enough drive for the prevailing track conditions without slip and without excessive tension.

When you first run the car punch the throttle momentarily to find if there is slip, this sounds just like belt slip. If you have correctly adjusted the belt tension (Transmission Assembly section 14) then tighten differential until slip is eliminated. Tighten the differential by inserting a screwdriver in the slot of the rear axle (it should be located on the left side of the car) then turn the right rear wheel clockwise to tighten or anti-clockwise to loosen. When tightening make adjustment of no more than  $\frac{1}{4}$  turn at a time.



#### ADJUSTMENT OF DIFF WHEN AT TRACK

- 3) **Belt Adjustment:** If correctly assembled and adjusted as shown in Transmission Assembly paragraph 14 it is most unlikely that trackside adjustment will be required. Never run with a slipping belt as both pulleys and belt can be damaged. Belt slip sounds like a tearing noise when the throttle is opened wide. Always recheck differential adjustment first as in Paragraph 2 because differential slip and belt slip sound very similar. To adjust, remove transmission assembly from the car by first removing the motor guard and then the 4 counter sunk screws from underneath and finally the two screws which pass through the bulkhead. Belt tension is then adjusted as in Transmission Assembly paragraph 14.
- 4) **Rear - Camber:**  
The rear wheel should be set at 1-2 deg, negative camber. This means that the tops of the wheel lean inwards. Adjustment is carried out by turning the hexagon part of the top link. The left hand thread of the link is nearest the small groove in the hexagon. Turning this end clockwise will increase length and reduce camber, turn anti-clockwise to increase camber.
- 5) **Front - Camber:**  
The front wheels should be set at 1-5 deg 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. Run the camber control link to the inner hole on the fibre-glass bracket if you need more steering.

#### Toe in:

The front track rods are adjustable, similar to the top links at the rear. Set the front wheels up 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.

#### Ackermann Effect:

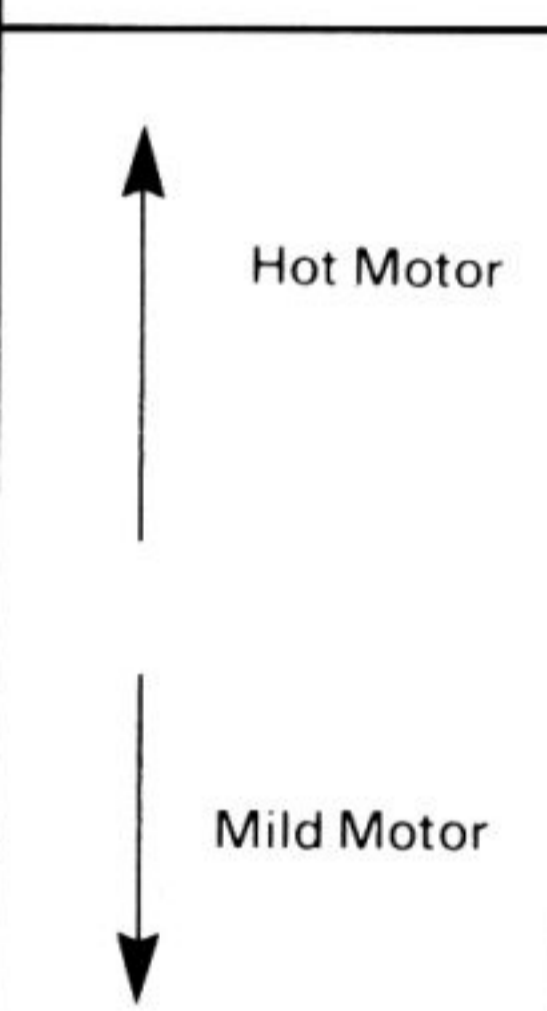
The steering blocks have two holes for attaching the track rod end to, the hole nearest the centre of the car will give an increased Ackermann Effect and improve low speed steering and stability on low grip.

#### Rake Angle:

Rake angle, or kick-up on your COUGAR is adjustable, this angle is also the castor angle, less castor will give more turn-in but less steering on corner exit.



- 6) **Front Shock Mounting:**  
Mounting shock to outer hole will stiffen the suspension giving less 'Turn-in'.
- 7) **Rear Shock Mounting:**  
The rear wishbone offers 4 mounting positions. Moving the shock outwards will stiffen the suspension and reduce 'drop', ideal for indoor (carpet), or to reduce the tendency for the car to turn over.
- 8) **Damping**  
It is recommended that you start with 20w oil in all shock absorbers. Then experiment with different grades for different track conditions and driving styles.
- 9) **Tyres:**  
The front and rear tyres in the kit will give safe predictable handling for normal 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. Refer to tyre specification sheet, page 1.
- 10) **Gear ratios for 5 minute Race Duration**

Pinion	Gear	Pinion to gear Ratio	Overall ratio	Approx. motor wind	
19	95	5.000	12.14	14T	
19	92	4.942	11.99		
19	89	4.684	11.36	15T	
19	86	4.526	10.99		
22	95	4.318	10.48		
22	92	4.182	10.15	17T	
22	89	4.045	9.80		
22	86	3.909	9.49		
25	95	3.800	9.23	19T	
25	92	3.68	8.94		
25	89	3.56	8.64		
25	86	3.44	8.35	21T	
28	95	3.393	8.23		
28	92	3.286	7.99		
28	89	3.178	7.72	27T	
28	86	3.071	7.45		

Dont forget car performance also depends on tyre diameter.

Most tyres are 85mm in diameter but minispikes are 78mm diameter and need a reduction of approximately 10% on overall ratio to give the same car performance. In general cars run longer with smaller pinions. Excessively large pinions, particularly with hot i.e. low wind motors can cause overheating and damage. The gear ratio required will vary with race duration and track conditions so you must experiment for best results.

- 11) **Lubrication:**  
All bearings must be lubricated, especially during wet weather. Always remove bearings and clean after running in wet conditions. A533 ballraces may be cleaned by carefully removing the seals with a knife blade under the outside edge and pressed back into place after cleaning. Black contact seals may be removed to reduce drag in clean conditions. **WARNING:** Some aerosol oils and degreasers will expand bearings seals causing drag. Plastic parts should not be lubricated. Drive belts **MUST NOT** be lubricated. Ball differentials and thrust races should only be lubricated with silicone grease.
- 12) **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 will allow - a low car always corners better than a high car. Use the softest damper settings that stop the wheels from bouncing. It is very easy to over damp the car and cause bouncing at speed.

### KIT CONTENTS LIST

BAG NO	SPARES NO	PART NO	DESCRIPTION	NO OFF
<b>U415T</b>	<b>U415T</b>		<b>Cougar - 2WD Competition All Terrain</b>	
		S602W	Instruction Book Set	1
	U583M	U583M	Body & Wing Moulding - Cougar	1
	U221D	T221C	Chassis Pan - 2WD	1
	U550F	T550E	Transmission Set - 2WD	1
	U552H	T552G	Rear Suspension Set - 2WD	1
	U558N	T558M	Front Suspension Set - Cougar	1
	U555K	T555J	Shock Absorbers - (Set 4)	1
		T5600	Wheels, Tyres & Aerial - Cougar	1
T550	U550F		Transmission Cougar - 2WD	
		T178	Transmission Housing	1
		T195	Drive Belt HTD 72 X 8mm Loose	1
		T215	Gear Cover	1
		T255	Motor Guard	1
		T179	Cover Plate	1
		T180	Motor Plate	1
		T084	Rear Axle	1
		A537	Oilite Bush (4 X 16 X 5)	2
		A536	Oilite Bearing (9 X 16 X 5)	2
		A539	Bearing Sleeve (5mm)	2
		T108	U/J Pivot Assembly	4
		T131	U/J Assembly Tool F/G	1
		T227	Layshaft - Rear	1
		T229	95T Gear 48DP	1
		T234	22T Pinion 48DP	1
	U701A	T701	Cougar Pulley Set - 2WD	
		T203	Diff. Pulley 51T X 10mm	1
		T196	21T Pulley - 2WD	1
		T197	Space Pulley	1
		T258	Pulley Flange	2
	U704D	T704	Drive Shaft Mouldings 2WD	
		T027	Drive Shaft - Male	2
		T028	Drive Shaft - Female	2
		T030	Wheel Hub	2
		T031	Rear Hub	2
		T517	Bearing Housing Moulding	
		T083	Bearing Housing Diff. Closed	1
		T081	Bearing Housing Rear Eccentric	2
		T082	Bearing Housing Diff. Open	1
	<b>U700Z</b>	<b>T700</b>	<b>Cougar Transmission Fixings - 2WD</b>	
		A035	St. St. Screws M3 X 6 Cp. Hd.	2
		A225	Steel Washer M3	2
		A301	Screw Self Tap No. 2 X 3/16 Pn. Hd.	12
		A323	Screw Self Tap No. 4 X 3/8 Pn. Hd.	8
		A326	Screw Self Tap No. 4 X 3/4 Pn. Hd.	2
		A040	St. St. Screw M3 X 20 Cp. Hd.	2
		A051	Nyloc Nut M3	3
		A154	Disc Spring 1/8 X 0.23 X 0.012	2

BAG NO	SPARES NO	PART NO	DESCRIPTION	NO OFF
		A180	'O' Ring 1/8 X 1/16 Nitrile	1
		A333	Self Screw Tap No. 4 X 3/8 Csk. Hd.	4
		A304	Screw Self Tap No. 2 X 3/8 Pan Hd.	10
		A141	Socket Wrench 1.5mm AF	1
	U702B	T702	Diff. Repair Kit	
		A520	Thrust Race 1/8 X 5/16	1
		A220	Thrust Washer 3/8 X 13/16 X 1/32	2
		T118	Washer Carrier - Large	2
		T243	Friction Paper 3/8 X 13/16	2
		A401	Needle Roller 1.5 dia. X 7.8mm	1
		A500	Steel Ball 3.0mm dia.	15
<b>T552</b>	<b>U552H</b>		<b>Rear Suspension - Cougar - 2WD</b>	
		T199	Rear Hub Carrier	2
		T268	Rear Wishbone	2
		T202	Pivot Block Rear Wishbone	4
		T237	Bulkhead Topcat	1
		T260	Shock & Wing Mount	1
		A536	Oilite Bearing (9 X 16 X 5)	4
		A538	Bearing Sleeve (11mm)	2
	U703C	T703	Cougar Rear Susp. Small Parts - 2WD	
		A028	Steel Screw M3 X 16 Pn. Hd.	2
		A030	Steel Screw M3 X 10 Pn. Hd.	2
		A010	Steel Screw M3 X 20 Pn. Hd.	2
		A048	Steel Nut M3	3
		A093	Stud M3 X 20 Pn. Hd.	2
		A323	Screw Self Tap No. 4 X 3/8 Pn. Hd.	8
		A326	Screw Self Tap No. 4 X 3/4 Pn. Hd.	2
		A417	Rear Hub Carrier Pivot Pin	2
		A412	St. St. Pin. 2.0 Dia. X 54mm	2
		T328	Rose Joint Socket	4
		T239	Rose Joint Ball	4
		A143	Socket Wrench 2.5mm AF	1
		A206	Nylon Washer 3.3 X 8.0 X 1.6mm	5
	U712L		Wing Mount Kit - Topcat	
		A407	Needle Roller 1.5Dia. X 54mm	2
		A190	'O' Ring 9.0 X 1.6mm	3
		A323	Self Screw Tap No. 4 X 3/8 Pn. Hd.	2
		T735	Wing Mount Mouldings	
		T263	Wing Bracket	2
		T262	Lower Wing Washer	2
		T261	Upper Wing Washer	2
T558	U558N		Front Suspension Set - Cougar	
	U343Z	T343	Shock Mount F/G/ - Cougar	1
	U724X	A533	Ball Bearing 8 X 16 X 5	2
		T707	Front Suspension Small Parts - Cougar	
	U750X	T320	Ball Socket - Small	8
	U750X	T321	Ball Stud	8
		A010	Steel Screw M3 X 20 Pn. Hd.	2

### KIT CONTENTS LIST

BAG NO	SPARES NO	PART NO	DESCRIPTION	NO OFF
		A039	St. St. Screw M3 X 16 Cap Hd.	4
		A048	Steel Nut M3	4
		A051	Nyloc Nut M3	2
		A326	Screw Self Tap No. 4 X 3/4 Pn. Hd.	2
		A038	St. St. Screw M3 X 12 Cap. Hd.	2
		A206	Nylon Washer 3.3 X 8.0 X 1.6	2
U760H		A095	Turnbuckle Adjuster M3 X 45mm	4
		A302	Screw Self Tap No. 2 X 1/4 Pn. Hd.	8
		<b>T709</b>	<b>Chassis Accessories - Cougar</b>	
U717Q		T252	Wire Clamp	1
U717Q		A424	Link Wire	2
		A333	Screw Self Tap No. 4 X 3/8 Csk. Hd.	2
U254K		T254	Nicad Holder & Strap	1
		A323	Screw Self Tap No. 4 X 3/8 Pan Hd.	2
U122M		T122	Velcro	3
U779A		G305	Servo Tape	1
U627X		T627	Servo Saver Assembly	1
<b>U748V</b>		<b>T748</b>	<b>Front Suspension Pivot Set - Cougar</b>	
		T339	Pivot - Inboard Fr. Wish Bone	2
		T228	Pivot - 1/8"	4
		T353	Shock Mount Bush	2
		A051	Nyloc Nut M3	2
U727A		A103	'E' Clip 1/8"	12
		A039	St. St. Screw M3 X 16 Cap. Hd.	2
		A048	Steel Nut M3	2
<b>U729W</b>		<b>T749</b>	<b>Steering Pivot Set - Cougar</b>	
		T342	Pivot Bush - Steering	2
		T242	Steering Lever Pivot	2
		A225	Steel Washer M3	4
		A023	Steel Screw M3 X 12 CSK. Hd.	2
		A032	Steel Screw M3 X 6 CH Hd.	2
<b>U774V</b>		<b>T774</b>	<b>Wishbones &amp; Hub Mouldings - Cougar</b>	
		T328	Steering Block	2
		T330	Wishbone - Front	2
		T336	Spacer - Rake Angle	4
		T338	Inner Hub & Nyloc Holder	2
		T202	Bearing Retainer	2
<b>U775W</b>		<b>T775</b>	<b>Front Plate &amp; Steering Levers - Cougar</b>	
		T322	Lower Suspension Plate	1
		T340	Steering Lever	1
		T341	Radius Arm	1
<b>U776X</b>		<b>T776</b>	<b>Top Bkt. Yokes, Centre Track Rod/Cougar</b>	
		T323	Upper Suspension Plate	1
		T332	Steering Yoke R. H.	1
		T334	Steering Yoke L. H.	1
		T335	Centre Track Rod - Steering	1
<b>T555</b>	<b>U555K</b>		<b>Shock Absorbers (Pk 4)</b>	
		T059	Cap - Shock Absorber	4

BAG NO	SPARES NO	PART NO	DESCRIPTION	NO OFF
		T060	Shock Body 16mm Stroke	2
		T061	Shock Body 32mm Stroke	2
		T133	Suspension Spring 0.045 X 11 X 2.5 Rear	2
		T132	Suspension Spring 0.045 X 8 X 1.5 Front	2
	<b>U613J</b>	<b>T613</b>	<b>Spring Stops &amp; Spacers Moulding</b>	
		T090	Spring Stop	4
		T092	Spacer 1mm	4
		T093	Spacer 2mm	4
		T094	Spacer 4mm	4
		T095	Spacer 8mm	4
	<b>U637H</b>	<b>T637</b>	<b>Shock Pistons (Set of 4)</b>	
		T096	Shock Absorber Piston (1sq. mm hole)	2
		T097	Shock Absorber Piston (2 sq. mm hole)	2
	<b>U614K</b>	<b>T614</b>	<b>Shock Absorber Seals (4 Sets)</b>	
		T158	Bush - Shock Absorber	4
		T159	Seal Housing - Shock Absorber	4
		A230	Stepped Washer	2
		A208	Nylon Washer M3 X 0.8mm	2
U162A		T162	Diaphragm - Shock Absorber	4
		A103	'E' Clip 1/8"	12
		A185	'O' Ring 5.1 X 1.6mm Nitrile	4
U722V		A181	'O' Ring 1/8" X 1/16" - Silicone	8
		A209	Black Washer	4
		A131	Internal Circlip 8.0 x 0.39mm	4
		<b>T778</b>	<b>Shock Absorber Small Parts</b>	
		A038	St. St. Screw M3 x 12 Cap Hd.	2
		A039	St. St. Screw M3 x 16 Cap Hd.	2
		A048	Steel Nut M3	2
		A051	Nyloc Nut M3	2
U062E		T062	Piston Rod - 16mm Stroke	2
U063F		T063	Piston Rod - 32mm Stroke	2
		T117	Spacer Tube	1
U728B		T238	Rose Joint - Socket	4
U728B		T239	Rose Joint - Ball	4
U584N		S602	Instruction Book Set - Cougar	
U777Y		S603	Decal Sheet - Cougar	1
		S604	Window Spray Masks - Cougar	1
<b>T560</b>			<b>Wheels, Tyres &amp; Aerial</b>	
U224G		T224	Front Wheel	2
U225H		T225	Rear Wheel	2
U119J		T119	Aerial Tube	1
T679W		T679	Cat Rear Tyre - 15 x 12 Mini Sp-Blue	2
T655Y		T655	Cat Front Tyre 2 x 20 Stud-Blue	2
or		T698P	T698 Cat Front Tyre - RIB - Blue	2

# PRO-CAT

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