mainair sports

MAINAIR RAPIER

Quick Build Kit
Parts List

Doc. Ref. RK2.
Issue 1
6th, November 1996.

Mainair Sports Ltd., Alma Industrial Estate, Regent Street, Rochdale, Lancs. OL12 0HQ, England
Tel. 01706 55134. Fax: 01706 31561. VAT Reg. No. 306 0166 03

Introduction

This manual contains the list of parts for the quick build Mainair Rapier kit, split into two parts, Blade wing and Rapier trike. This manual must be used in conjunction with the Build Manual, RK1.

Amendment Record

Date	Amendment	Reference

Part Number	Description	Quantity	Checked
032-302	Side Strut Center Section	2	
032-306	Side Strut Bottom Section	2	
032-310	Suspension Balls	8	
032-315	Al Pressure Pads	4	
032-556	Ear Bracket 1"	2	
032-225	Axle Left Hand (New Style)	1	
032-225	Axle Right Hand (New Style)	1	
032-250	Axle Plate Top	1	
032-251	Axle Plate Bottom	1	
032-556	Ear Bracket 1"	4	
032-260	Axle Tie Wire	1	
032-325	Drag Link Left Hand	1	
032-325	Drag Link Right Hand	1	
032-556	Ear Bracket 1" (3/16" x 1/4")	2	
036-170	Fabric Alum Strip	1	
036-150	Cockpit Fabric	1	
013-195	Stainless Ring Large	2	
052-080	Cord 3mm	2 mts	
051-105	Shock Cord 3mm	2 mts	
051-110	Shock Cord 4mm	1 mts	
019-115	Heat Shrink Large	15 cm	
032-103	Seat Strap Tube	1	
032-505	Dual Seat	1	
032-507	Seat Foam Large	1	
032-507	Seat Foam Small	1	
032-506	Seat Board	1	
032-520	Seat Belt Front	1	
032-520	Seat Belt Rear	1	
032-510	Seat Strap	1	
032-105	Seat Frame Top Complete	1	
032-105	Seat Frame Lower Complete	1	
032-125	Seat Frame Plates Lower	2	
032-145	R Clip with Wire	2	
032-130	Bottom Seat Channel	1	
032-132	Bottom Seat Channel Plate	1	
032-525	Seat Belt Retaining Wire	1	
032-139	Telescopic Top	2	
032-138	Telescopic Bottom	2	
031-010	Ignition Switch Wired	1	
015-170	Rem Strap 1.2	3	
015-172	Rem Strap 1.1/8"	4	
00-00	Bush 1.5/16"	3	
00-00	Bush 1.3/16"	4	

000-000	Al Spacer 22mm	2	
031-106	Rubber Grommet Small	2	
013-062	Light Tang	2	
032-065	Gemini Keel	1	
032-025	Monopole/Keel Plates	2	
032-015	Mk11 Monopole Comp	1	
032-385	Lower Engine Strut Left	1	
032-385	Lower Engine Strut Right	1	
026-220	AL Wheel	3	
026-240	Sealed Bearing	6	
026-255	Brake	1	
026-100	Tyre 4 Ply	3	
026-091	Inner Tube Cranked Valve	3	
00-00	Spacer 29mm Alloy	3	
00-00	Dust Cover	2	
032-156	Front Stub	1	
032-161	Nylon Head Bearing Top	1	
032-162	Nylon Head Bearing Btm	1	
032-163	Head Set Tube	1	
032-164	Head Set Locator	2	
024-076	Grease Nipple	1	
036-135	Cockpit Bracket	1	
036-125	Cockpit Retaining Wire	1	
013-450	Pulley	2	
00-00	Bush 1/2"	2	
032-166	Forks	1	
032-172	Foot Throttle	1	
025-090	Throttle Return Spring	1	
032-181	Brake Pedal	1	
025-200	Brake Cable	1	
032-168	Shock Absorber	2	
032-227	Centre Spacer	1	
032-167	Trailing Link	2	
036-050	Front Wheel Mudguard	1	
032-226	Axle Bolt M12 x 200	1	
013-016	Split Pin 1.1/2"	1	
013-100	Shackle 1/2"	1	
00-00	Nylon Spacer	2	
00-00	Spacer 23mm Alloy	1	
00-00	Spacer 17mm Alloy	1	
032-228	Washer 1" x 12.1mm	1	
032-229	Castle Nut M12	1	
017-090	Cable Tie	1	
008-255	Nut Cap 5/16"	1	
032-180	Black Bush	1	

036-100	Gemini Cockpit	1	
036-175	Edge Trim	6 ft	
036-130	Cockpit Strut	1	
036-135	Cockpit Bracket	2	
032-106	Cockpit Foot Rest Bar	1	
036-105	Windscreen	1	
036-160	Map Pocket	1	
036-165	Map Pocket Al Strip	1	
036-120	Windscreen Rivets	9	
027-400	Prop Tape	6 ins	
013-015	Self Tapper Large	2	
024-200	Copper P Clip	1	
015-180	Remstrap 2"	1	
032-420	Front Strut Bottom Sec	1	
032-412	Front Strut Centre	1	
032-415	Front Strut Top	1	
006-355	Wizz Pin	2	
032-440	Front Strut Top Channel	1	
032-390	Engine Wires (Engine Type)	1	
032-621	Backup Loop	1	
024-285	Fuel Tank Rear	1	
025-109	Hand Throttle Tube	1	
025-110	Hand Throttle Lever	1	
025-115	Hand Throttle Knob	1	
025-120	Hand Throttle Plate	1	
036-365	Hand Throttle Cover	1	
025-210	Choke Cable	1	
026-060	Throttle Cable Comp	1	
013-130	Clevis Pin 1/2"	1	
00-00	Al Spacer	2	
00-00	Nylon Spacer	1	
032-190	Steering Damper	1	
032-556	Ear Bracket 1" (1/4" x 3/16")	1	
00-00	Nylon Steering Stop	1	
036-013	Blade Spat L/H (Comp)	1	
036-013	Blade Spat R/H (Comp)	1	
027-485	Fibre Glass Exhaust Guard	1	
036-350	Engine Cover (Engine Type)	1	
033-940	Ign Switch Placard	1	
033-922	Fuel Mix Placard	1	
033-925	Fuel Tap Placard	1	
0033-930	Throttle Direction Placard	1	
033-912	Main Placard	1	

033-906	Name Plate	1	
013-015	Self Tapping Screw	4	
033-977	Mainair Sports Logo	2	
033-971	Rapier Logo	2	
032-650	Transit Yoke	1	
032-540	Transit Tie	1	
032-640	Transit Peg	1	
	BOLTS		
004-015	AN3-6A	4	
004-020	AN3-7A	2	
004-030	AN3-11A	2	
004-045	AN3-14A	2	
004-050	AN3-15A	6	
004-058	AN3-17	2	
004-060	AN3-17A	2	
004-080	AN3-24A	1	
004-085	AN3-25A	1	
004-090	AN3-26A	1	
004-100	AN3-30A	1	
004-120	AN3-34A	2	
004-274	AN4-15	1	
004-275	AN4-15A	4	
004-290	AN4-20A	2	
004-295	AN4-21A	4	
004-300	AN4-22A	2	
004-309	AN4-24A	1	
004-317	AN4-25A	1	
004-325	AN4-27A	4	
004-330	AN4-30A	3	
004-340	AN4-32A	1	
004-357	AN4-35A	1	
004-370	AN4-40A	1	
004-385	AN4-43A	1	
004-485	AN5-12A	1	
004-487	AN5-14	2	
004-500	AN5-15A	2	
004-507	AN5-17	1	
004-530	AN5-23	1	
004-580	AN5-30A	4	
004-584	AN5-32	1	
004-607	AN5-34	1	
004-615	AN5-35A	1	
004-665	AN5-47	1	
	WASHERS		
008-030	Std 3/16"	34	
008-025	Thin 3/16"	20	
008-050	Penny 3/4" x 3/16"	11	

008-050	Plate 1" x 3/16"	2	
008-035	Std 1/4"	33	
008-026	Thin1/4"	2	
008-060	Penny 1" x 1/4"	9	
008-040	Std 5/16"	20	
008-027	Thin 5/16"	2	
008-070	Penny 1" x 5/16"	14	
008-070	Plate 1.1/4" x 5/16"	4	
000-000	Washer 1" x 5/8"	6	
026-247	Shakeproof Washer	4	
008-125	Nyloc 3/16"	22	
008-130	Nyloc 1/4"	25	
008-135	Nyloc 5/16"	8	
008-200	Castle 3/16"	2	
008-205	Castle 1/4"	1	
008-220	Castle 5/16"	6	
008-160	Wing Nut 5/16"	1	
032-252	M11 Nut	6	
005-156	M4 x 20 Cap Head	2	
008-222	M4 Nyloc	2	
005-170	M6 x 20 Cap Head	1	
008-223	Nyloc Nut M6	1	
008-260	Skiffy Cap 1/4"	23	
008-255	Skiffy Cap 5/16"	6	
013-017	Split Pin	13	
008-014	Nylon Washer 1/4"	4	
008-015	Nylon Washer 3/4" x 1/4"	2	
008-015	Nylon Washer 1.1/4" x 1/4"	5	
008-020	Nylon Washer 1.1/4" x 5/16"	4	
015-010	Saddle 1.1/8" x 1/4"	4	
015-015	Saddle 2" x 1/4" or 5/16"	20	
015-015	Saddle 2" x 5/16"	2	
005-520	Hang Bolt	1	
005-515	Wing Nut M10	1	
013-190	Split Ring Large	1	
013-185	Split Ring Med	1	
	ROTAX 503 ENGINE		
028-075	Rotax 503 Engine	1	
032-370	Left Hand Box Mount	1	

032-370	Right Hand Box Mount	1	
027-425	Exhaust Bracket	1	
032-365	Rear Cross Angle (Cut Out)	1	
032-365	Front Cross Angle (Cut Out)	1	
028-005	Lord Mount	8	
032-366	Main Mounting Plate	1	
032-560	Ear Bracket 3/4"	1	
024-010	Fuel Line	2 mts	
024-205	Over Spring	2 mts	
024-032	Fuel Filter	1	
024-151	Spring Clip	2	
024-151	Beal Clip 1/2"	3	
024-150	Beal Clip 9/16"	3	
024-055	Three Way Tap	1	
024-060	Indent Ring	1	
024-058	Indent Spring	1	
024-077	Adaptor Plug	1	
024-075	Blanking Plug	1	
024-079	Hose Tail	1	
030-042	Air Filter	1	
00-00	Carb Breather Pipe	1	
015-135	Engine Cover Buffer	4	
015-120	Square End Plugs	6	
024-355	D Shape Rubber Buffer	2	
015-105	Top Hat 1/4"	4	
028-025	Engine Mounting Stud	4	
024-401	Quick Release Elastic	1	
024-201	Pipe Clip	1	
027-425	M8 Exhaust Rubber Mount	2	
027-425	Exhaust Rubber Mount 5/16"	1	
027-425	Exhaust Rubber Mnt 5/16" Dld	1	
011-290	Tecma Pin	1	
013-190	Key Ring Small	1	
013-195	Key Ring Large	1	
024-200	Copper P Clip	2	
019-075	Locking Wire	3 mts	
031-100	Wiring Box	1	
031-100	Wiring Box Lid	1	
00-00	Wiring Box Screws	4	
031-106	Grommets Small	4	
031-105	Grommets Large	2	
031-120	Wiring Block	1	
031-040	Wiring Harness	8 ft	
031-050	Earth Strap	2	
004-156	Cap Head M3 x 20	2	
005-150	Cap Head M4 x 12	1	
004-156	Nylock Nut M3	2	
008-222	Nyloc Nut M4	1	
00-00	Brass Washer	2	
005-150	M4 x 12 Cap Head Screw	16	

008-222	M4 Nyloc	16	
005-170	M8 x 20 Hex Head Screw	4	
005-170	M8 x 20 Cap Head	6	
004-242	Bolt AN4-6A	1	
004-265	Bolt AN4-13A	2	
004-262	Bolt AN4-13	1	
004-271	Bolt AN4-14A	1	
004-270	Bolt AN4-14	1	
004-275	Bolt AN4-15A	2	
004-299	Bolt AN4-22	4	
004-325	Bolt AN4-27A	1	
004-015	Bolt AN3-6A	1	
008-030	Washer 3/16"	5	
008-050	Washer 3/4" x 3/16"	2	
008-125	Nyloc 3/16"	1	
008-035	Washer 1/4"	12	
008-035	Washer 1/4" Thin	8	
008-065	Washer 1" x 1/4"	4	
008-060	Washer 1.1/4" x 1/4"	4	
008-134	Nyloc 1/4"	10	
008-205	Castle Nut 1/4"	6	
008-020	Washer 5/16"	5	
008-020	Washer Thin 5/16"	4	
005-815	Spring Washer 5/16"/M8	12	
008-070	Washer 1" x 5/16"	4	
008-135	Nyloc 5/16"	3	
008-220	Castle Nut 5/16"	1	
008-224	Nyloc M8	3	
013-015	Self Tapper	4	
013-015	Self Tapper Small	1	
013-017	Split Pin	7	
031-050	Earth Strap	1	
	PROPELLER OPTIONS		
027-385	Propeller 62" x 40"	1	
004-580	Bolt AN5-30A	6	
008-040	Washer 5/16"	6	
008-040	Washer 5/16" Thin	6	
008-135	Nyloc Nut 5/16"	6	
051-040	Prop Bag	2	
027-392	3 Blade Wooden Propeller	1	
004-610	Bolt AN5-34A	6	
004-600	Bolt AN5-32A	12	
008-040	Washer 5/16"	36	
008-135	Nyloc 5/16"	18	
051-040	Prop Bag	3	
027-389	3 Blade Warp Drive Propeller	1	
005-330	Bolt M8 x 90	6	

008-224	Nyloc M8	6	
008-040	Washer 5/16"	12	
051-040	Prop Bag	3	
	ROTAX 462		
028-070	Rotax 462	1	
032-370	Left Hand Box Mount	1	
032-370	Right Hand Box Mount	1	
032-365	Rear Cross Angle	1	
032-365	Front Cross Angle	1	
032-366	Main Mounting Plate	1	
030-039	L/H Air Box Bracket	1	
030-039	R/H Air Box Bracket	1	
030-037	Air Box Bolt Set	1	
027-460	Exhaust Bracket	1	
028-005	Lord Mount (Std)	6	
028-005	Lord Mount (Thin)	2	
015-135	Engine Cover Buffer	4	
015-120	Square End Plug	2	
024-355	D Shape Rubber Buffer	2	
015-105	Top Hat 1/4"	4	
027-426	M8 Exhaust Rubber Mnt	2	
027-425	Exhaust Rubber Mnt 5/16"	3	
027-425	Exhaust Rubber Mnt Drilled	1	
030-910	Radiator Rubber Mnt	2	
028-025	Engine Mounting Stud	4	
024-401	Quick Release Elastic	1	
032-560	Ear Bracket 3/4"	1	
030-901	Radiator Lower Brkt	1	
030-901	Radiator Top Bkt 462	2	
030-912	Oil Reservoir Bkt	1	
024-010	Fuel Line	2 Mts	
024-205	Over Spring	1.5 Mts	
024-032	Fuel Filter	1	
024-055	Three Way Tap	1	
024-060	Indent Ring	1	
024-058	Indent Spring	1	
024-077	Adaptor plug	1	
024-074	Blanking Plug	1	
024-079	Tail 1/4"	1	
031-100	Wiring Box	1	
031-100	Wiring Box Lid	1	
00-00	Wiring Box Screws	4	
031-106	Grommets Small	4	
031-105	Grommets Large	2	
031-120	Wiring Block	1	
031-050	Earth Strap	2	
031-040	Wiring Harness	8ft	
00-00	Wire (Various)	2ft	
00-00	Over Sleeve	2ft	

030-042	Air Filter	1	
00-00	Carb Breather Pipe	2	
019-075	Locking Wire	2 mts	
030-905	Radiator L/H	1	
030-903	Radiator R/H	1	
030-903	Radiator Cap	1	
024-215	Carb Heat Coil	1	
024-216	Carb Heat Coil Cover	1	
030-909	Pump Hose 90deg	2	
030-906	Cross Hose 410mm	1	
030-908	Reducer Hose	1	
030-907	Top 90deg Hose	1	
030-913	Hose 1" x 6"	1	
030-914	Alloy Tube 1" x 4"	2	
00-00	Alloy Tube 1.1/4" x 2"	1	
004-015	Bolt AN3-6A	1	
004-265	Bolt AN4-13A	2	
004-271	Bolt AN4-14A	2	
004-275	Bolt AN4-15A	2	
004-300	Bolt AN4-22A	2	
004-305	Bolt AN4-23A	2	
004-325	Bolt AN4-27A	1	
005-170	Bolt M8 x 20	4	
005-170	Cap Head Screw M8 x 20	2	
004-156	M3 x 20 Cap Head Screw	2	
005-150	M4 x 12 Cap head Screw	17	
005-156	M4 x 20 Cap Head Screw	2	
008-221	M3 Nyloc	2	
008-222	M4 Nyloc	23	
008-125	Nyloc Nut 3/16"	3	
008-030	Washer 3/16"	5	
008-030	Washer 3/16" Thin	4	
008-050	Washer 3/4" x 3/16"	2	
008-130	Nyloc Nut 1/4"	15	
008-035	Washer 1/4"	23	
008-035	Washer 1/4" Thin	6	
008-060	Washer 1/4" x 1"	4	
008-065	Washer 1/4" x 1.1/4"	6	
008-220	Nyloc Nut 5/16"	5	
008-040	Washer 5/16"	14	
008-040	Washer 5/16" Thin	1	
008-220	Castle Nut 5/16"	1	
008-040	Spring Washer 5/16"	3	
999-999	Brass Washer	2	
008-225	M8 Nyloc	7	
008-224	M6 Nyloc	4	
013-015	Self tapping Screw	4	
013-015	Self Tapping Srew Small	1	
024-201	Pipe Clip (For QRE)	1	
011-290	Tecma Pin	1	

013-195	Key Ring Small	1	
013-195	Key Ring Large	1	
024-110	Spring Clip	4	
024-151	Beal Clip 1/2"	3	
024-150	Beal Clip 9/16 "	3	
013-017	Split Pin	1	
030-265	Stand Off 5/16"in x 5/16" Out	1	
024-125	Jubilee Clip TC1	9	
024-125	Jubilee Clip TC2	2	
017-090	Cable Tie	10	
00-00	Spacer 5mm	4	
00-00	Over Flow Pipe	1	
	PROPELLER OPTIONS		
027-385	62" X 44" Propeller	1	
004-580	Bolt AN5-30A	6	
008-040	Washer 5/16"	6	
008-040	Washer 5/16" Thin	6	
008-135	Nyloc Nut 5/16"	6	
051-040	Prop Bag	2	
027-392	3 Blade Wooden Propeller	1	
004-610	Bolt AN5-34A	6	
004-600	Bolt AN5-32A	12	
008-040	Washer 5/16"	36	
008-135	Nyloc Nut 5/16"	16	
051-040	Prop Bag	3	
027-389	3 Blade Warp Drive Propeller	1	
005-330	Bolt M8 x 90	6	
008-224	Nyloc M8	6	
008-040	Washer 5/16"	12	
051-040	Prop Bag	3	
	OPTIONS		
036-160	Map Pocket	1	
036-165	Map Pocket Al Strip	1	
036-120	Wind Screen Rivet	1	
024-299	Long Range Seat Tank	1	
000-000	Long Range Tank Pipe	1	
024-305	Front Tank Bracket	1	
024-298	Tank Strap	1	
005-170	Bolt M6 x 20	1	
032-463	Rear Steering Bar	1	
025-055	Rubber Foot Grip	2	
032-460	Rod End Bearing and Nut	2	
032-462	Steering Tie Bar	1	

032-472	Strg Lwr Keel Clamp	1	
032-472	Str Upper Keel Clamp	1	
032-465	Strg Bar Top Strap	1	
032-466	Cockpit Rear Brace	1	
036-125	Cockpit Retaining Wire	1	
004-010	Bolt AN3-5A	4	
004-020	Bolt AN3-7A	2	
004-035	Bolt AN3-12A	1	
008-125	Nyloc 3/16"	7	
008-030	Washer 3/16"	3	
008-030	Washer Thin 3/16"	8	
004-480	Bolt AN5-11A	1	
004-508	Bolt AN5-17A	1	
008-135	Nyloc 5/16"	2	
008-220	Castle Nut 5/16"	2	
008-040	Washer 5/16"	6	
000-000	Nylon Washer	2	

Part Number	Component Description	Quantity Per Aircraft	Checked
034-590	Wing Sail	1	
034-010	Leading Edge Port	1	
034-010	Leading Edge Stbd	1	
034-015	Leading Edge Outer Port	1	
034-015	Leading Edge Outer Stbd	1	
034-105	Keel	1	
034-160	Cross Tube Port	1	
034-160	Cross Tube Stbd	1	
034-205	A Frame Side	1	
034-205	A Frame Side With Trimmer	1	
034-250	Base Bar	1	
034-260	King Post	1	
034-136	Apex Block	1	
034-135	Hang Strap Bush	1	
034-140	Hang Strap	1	
034-145	Hang Strap Channel	1	
034-120	Nose plates	2	
034-122	Nose Catch Channel	1	
034-121	Swan Nose Catch	1	
034-047	Index Tips	2	
034-046	Leading Edge Bartol	2	
034-102	Plastic Keel Protector	1	
034-550	Pull Back Return Cord	1	
034-150	Pull Back Pins	2	
00-00	Nylon Roller	1	
005-905	Spirol Pin 1/8"	1	
034-165	Hinge Block	2	
034-557	Ear Bracket	2	
034-557	Ear Bracket + Spacer	1	
034-255	A Frame Corner	2	
034-216	Base Bar Corner	2	
034-500	Rigging Tool	1	
005-850	Allen Key	1	
034-405	Batten Set Complete	1	
034-525	Keel Webbing Strap	1	
034-080	Cord	20 mts	
034-350	Pull Back (long)	1	
034-345	Pull Back (Short)	1	
034-315	Side Wires	4	

034-305	Lower Front Wire	2	
034-310	Lower Rear Wire	2	
034-320	Top Front Wire	1	
034-335	Top Side Wire	2	
034-325	Top Rear Wire	1	
034-375	Inboard Luff Line	1	
034-370	Middle Luff Line	3	
034-365	Outer Luff Line	1	
034-355	Trimmer Cable	1	
034-915	Warning Placard	1	
034-916	Trimmer placard	1	
052-310	Registration Letters	One Set	
013-440	Nylon Reducer	7	
004-020	Bolt AN3-7A	2	
004-085	Bolt AN3-25A	1	
004-090	Bolt AN3-26A	2	
004-120	Bolt AN3-34A	2	
004-255	Bolt AN4-11A	1	
004-275	Bolt AN4-15A	1	
004-285	Bolt AN4-17A	3	
004-290	Bolt AN4-20A	1	
004-295	Bolt AN4-21A	2	
004-317	Bolt AN4-25	2	
004-324	Bolt AN4-27	3	
004-327	Bolt AN4-30	2	
004-335	Bolt AN4-31A	1	
004-365	Bolt AN4-37A	2	
004-480	Bolt AN5-11	1	
004-550	Bolt AN5-25A	1	
004-583	Bolt AN5-31	2	
004-630	Bolt AN5-40A	1	
008-125	Nyloc Nut 3/16"	7	
008-130	Nyloc Nut 1/4"	16	
008-205	Castle Nut 1/4"	6	
008-135	Nyloc Nut 5/16"	1	
008-220	Castle Nut 5/16"	3	
005-175	Socket Head Bolt	1	
006-355	Wiz Pin & Ring	3	
008-030	Washer 3/16"	7	
008-030	Washer 3/16" Thin	2	
008-050	Washer 3/16" x 3/4"	4	
008-035	Washer 1/4"	28	

008-035	Washer 1/4" Thin	12	
008-040	Washer 5/16"	4	
008-070	Washer 5/16" x 1"	2	
034-380	Dished Washer	2	
008-020	Nylon Washer 5/16" x 1"	5	
00-00	Brass Spacer 7/16" x 8mm Lng	2	
034-045	Cross Tube Mylar	2	
00-00	Cross Tube Spacer Long	1	
00-00	Cross Tube Spacer Short	1	
013-015	Self Tapping Screw	3	
013-120	Shackles 1"	1	
013-120	Shackles 1/2"	3	
013-451	Small Pully	1	
013-440	Roller	2	
008-235	Skiffy Cap Small	4	
008-235	Skiffy Cap Dome	3	
008-255	Skiffy Cap L/Head	13	
008-250	Top Hat Large	3	
013-185	Split Rings	2	
013-151	Link Connectors (Pull Backs)	2	
027-400	Prop Tape	12 ins	
051-105	Bungee 3mm	6 ins	
015-015	Saddle Washer 1.1/8" x 1/4"	2	
015-015	Saddle Washer 2" x 1/4"	5	
013-017	Split Pin	10	
034-565	Wing Bag	1	
034-505	Wing Pads	Set	

mainair sports

MAINAIR RAPIER

QUICK BUILD KIT

MANUAL

Doc. Ref. RK1.
Issue 1.
6th, November 1996.

Mainair Sports Ltd., Alma Industrial Estate, Regent Street, Rochdale, Lancs. OL12 0HQ, England
Tel. 01706 55134. Fax: 01706 31561. VAT Reg. No. 306 0166 03

Contents List

Amendment Record

Date	Amendment	Reference

Introduction

Thank you for purchasing your Mainair Rapier Kit, this aircraft should provide many years of trouble free flying provided that you follow the guidelines included in the aircraft construction manual and the aircraft operators manual.

Building of the Rapier is relatively straight forward and can be accomplished with the minimum of tools and equipment. No specialist equipment is required for the construction of your aircraft. The trike unit can be built in a relatively small area such as a garage, although power will be required. The wing frame can also be built in a similar area. However assembly of the completed wing requires a large clean area otherwise your wing will look dirty before its first flight. Prior to commencement of construction familiarise yourself fully with the instructions, plans and parts, a full parts list is provided in Rapier Kit Parts List Manual, ref RK2. The sequence of build has been laid out in a set order to minimise repeated operations, and is the order that over 1000 similar aircraft have been built and rebuilt without problem. There is no time limit to building and patience and pride are requirements for good workmanship. If there is any doubt or problem in the construction of your aircraft, then we, at Mainair Sports are just a phone call away on 01706-55134.

Care should be exercised during assembly to ensure that you do not over tighten bolts and crush tubes. For this purpose you will find a test piece of tube with a bolt through it. Tighten this bolt slowly and see how little effort is required to start to oval the tube, if you continue tightening you will then permanently damage the tube. The amount of effort required just prior to starting to oval the tube is all that is required throughout the aircraft. If in any doubt, as a guide only 1.5 threads should show through all nyloc nuts, if there is too much you have either damaged the tube or used the wrong bolt or washers. If no thread is showing then you have used the wrong bolt or washer combination. If in any doubt please consult the factory, particularly if you think you have damaged something, as the damage may look insignificant but once you are flying it could prove fatal.

Once you have taken delivery of your kit you may start construction straight away. The only inspection stage required is the final inspection by qualified Mainair Staff, when both the wing and the trike will be checked, and the trike unit run for the first time ready for test flying.

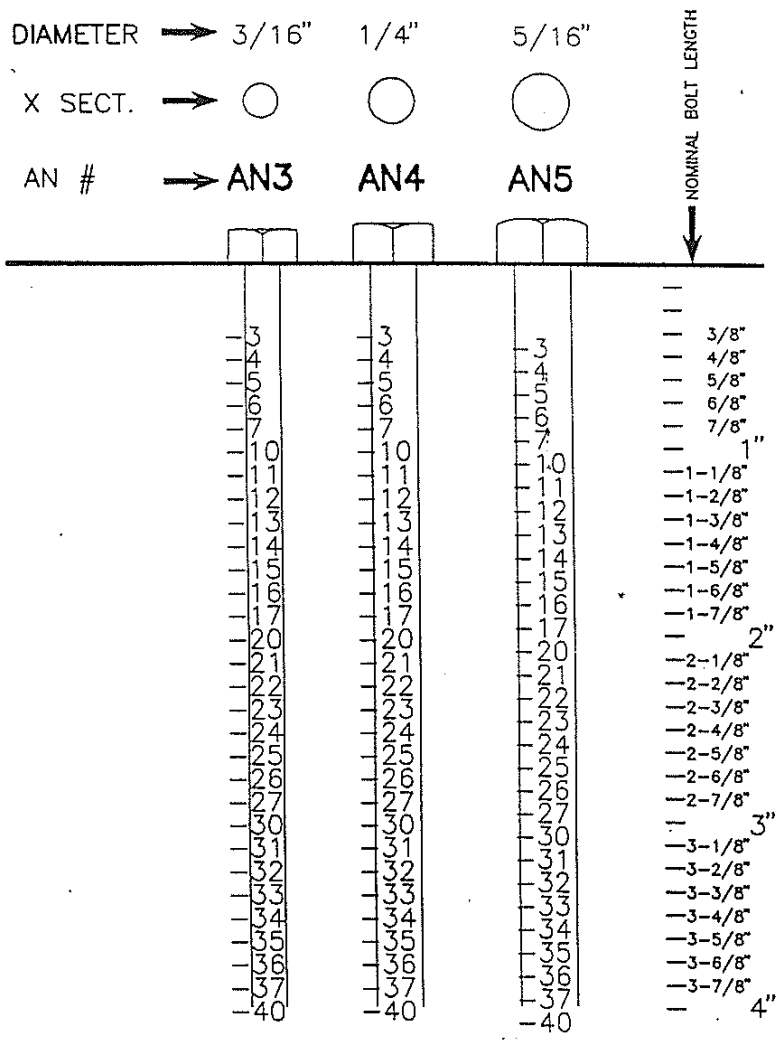
Happy Building.

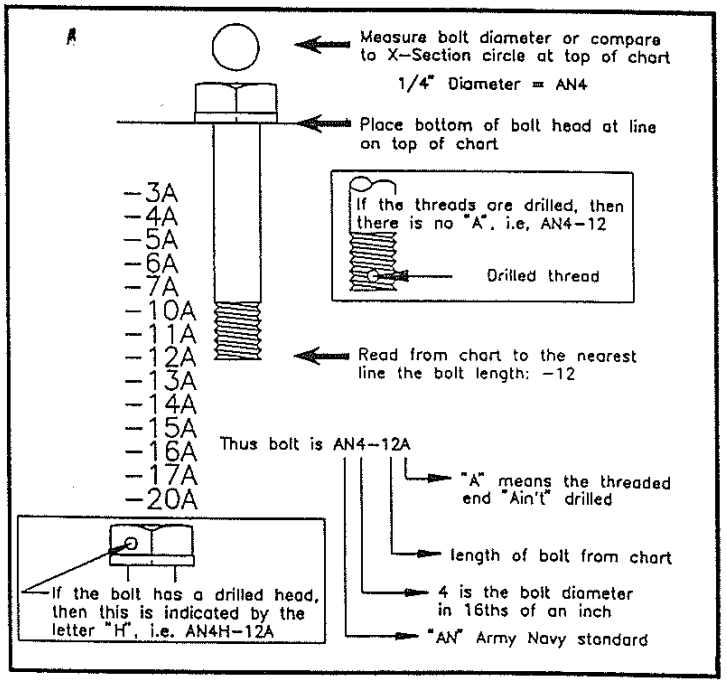
Airworthiness Procedure For Permit to Fly

Your Rapier microlight is manufactured to full BCAR Section S certification and supplied by a CAA Approved A1 company and as such enjoys all the same rights as a factory assembled aircraft including being used for training without any restrictions.

Prior to building your aircraft you should provide the factory with details for aircraft registration, and Permit application. All paperwork will be processed and dealt with by Mainair, requiring only a signature for registration together with the relevant payments, as shown on the current price list.

Once your aircraft has been completed, it will be returned to Mainair for inspection, and subsequent flight release documentation for test flying by either Mainair Sports or a specified Dealer Test Pilot only, no one else may fly the aircraft. The aircraft can be run in according to the schedule in the engine manual and then be test flown, and trimmed as required. On completion of the test flights a flight test report is lodged with Mainair, and the final application for a Permit to Fly forwarded to the BMAA by Mainair. Only after receipt of the Permit to Fly can you legally fly your aircraft. This process typically takes about 10 working days, depending upon how busy both the BMAA and the CAA are. Under no circumstances should you fly the aircraft until the Permit is in your hand, for to do so is in breach of the Air Navigation Order and is liable to prosecution.





Bolt Identification Guide

DWG NO. MK-300

TITLE BOLT IDENT GUIDE

DATE 1ST DEC 1993

SUPERCEDES

DRAWN BY PP CHECKED BT JEELL

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

Wing Assembly

Prior to assembling the wing ensure that you are familiar with all the components and the drawings. Make sure that you have sufficient clean work space for the sail fitting and final assembly. This is very important, as the sail will show dust and dirt very easily, and this will spoil the appearance of any wing. During assembly patience is required, do not force any components and if anything is observed to go tight during rigging stop and check that assembly is correct. The loads imposed during rigging can be quite high and if assembly is wrong then damage could occur.

Wing Airframe Assembly

1. The wing airframe assembly is started with the keel, see drawing BK-108 and BK-109. First slide the hang strap bush, then the Apex block onto the keel, ensuring that they are the correct way round. The recommended hang point for the hang strap bush is the middle hole for Rotax 462 or 503 engines. The hang strap can then be fastened in place, with the hang point hole towards the front. Lightly grease, using lithium grease, the hang strap and channel, and ensure that it is free to rotate. Fit the two ear brackets to the Apex block as shown on drawing BK-109.

2. The nose plates can next be attached to the nose together with the nose catch channel, see drawing BK-105 for details. Ensure that the nose plate with the serial number on is facing uppermost, and towards the front. Do not fasten the rear bolt on the channel, as the top rigging wire is fastened to it once the wing sail is in place.

3. The plastic keel protector can be clipped into place, be careful not to trap fingers whilst doing this. Fasten in position using insulation tape at either end. The seam should be facing down.

4. Fit the channel for the king post, as shown on drawing BK-108. Next install the pull back return cord, see BK-108. First fit the bungee into the Apex block, and insert the spirol pin and nylon roller. Then fasten the bungee at the rear of the keel with a self tapping screw, and locate the other end of the return cord onto the rear of the keel. Do not tighten this bolt at this stage, as it also holds the wing sail keel in place.

5. The stainless pull back pins are loctited into position, as shown on drawing BK-108, ensure that these are tight, but do not over tighten otherwise the riv-nut will rotate. Once fitted mark in position with tipex or similar to ensure that if they creep in use it will be visible.

6. The leading edges which are marked left and right, are next fastened to the nose plates, see drawing BK-105 for details, note that these bolts face upwards. **Make sure that the leading edge bolts at the cross tube junction do not drop out as they are holding a spacer in position within the leading edge, and it is very difficult to re-locate.**

7. The small pieces of plastic bartol attached to the leading edge near the cross tube junction should first be cleaned and then glued with bostik, then clipped into place, and fastened using insulation tape. The seam should be positioned facing down. See BK-106 for details.

8. The cross tubes are next fitted, by first fastening to the leading edges, ensure that they are the correct way around, and that all spacers and protection pieces are in position as shown on drawing BK-106 as shown. The webbing strap is then fitted onto each cross tube, and passed around the keel to restrict upward movement of the cross tubes. The hinge block is then connected as shown on drawing BK-107. The pull backs are then installed as shown, do not forget the spacer that is fitted inside the cross tube, these are different lengths to allow for the sleeving. When tightening the eyebolts ensure that the hinge block is square to the cross tube, otherwise damage may occur. Make sure the pull back cables are on the correct sides.

9. Open the wing out slightly, and fasten the pull back wires as shown on drawing BK-107.

A Frame Assembly

1. The A frame assembly is quite straight forward, but be careful not to muddle wires and ensure that the A frame is facing the correct way, i.e. monobolts facing forwards, and trim wheel on stbd side. The bolts holding the wires should not be done up tightly, as the cables must be free to rotate during rigging and de-rigging. See drawing BK-109 and BK-110 for details. Please note that the side wire with the plastic sleeve should be positioned at the front with the sleeve end attaching to the cross tube. This sleeve is to protect the leading edge and cross tube during rigging and de-rigging.

King Post Assembly

1. The king post has the top rigging fastened to it prior to fitting. These are simply installed and fastened with a 1/4" bolt. Ensure that the side wires are in the top hole. Fasten the upper side wires and top rear rigging as shown on drawing BK-111.

2. If an aerial has been specified this should be fitted at this time. Feed the cable in from the top and out through the lower hole before fitting the end plug.

Sail Fitting and Wing Assembly

1. Check airframe against the Blade Wing inspection schedule.

2. Check wing sail for correct colours, and check all eyelets are in place, and holes burnt for cables and bolts.

3. Place airframe on a clean floor with wing leading edges folded in. Place the nose on a small box or similar approximately 18" above the ground. Position the sail at the rear of the leading edges, spread out ready for the frame to slide in through the nose. Ensure that the undersurface central root zip is open and that the inspection panel zips are closed. Carefully guide the leading edges into the sail along each side. Care should be taken to ensure that nothing snags, do not force the sail as it can be easily torn. Guide the keel into position. Once the end of the wing keel is matched in place the sail is in the correct position. The bolt at the end of the keel can now be fitted to the sail and tightened accordingly.

4. Open out the wing leading edges slightly and insert the outboard leading edges. Ensure that they are in the correct sides, and that they lock firmly on the locator in the inboard leading edge. They should not be able to turn once locked, check to make sure.

5. Ensure that the index tips are in the normal position, marked with an N, with the button pin to the rear. The tip can be bolted to the sail using the following bolts, in the following order, bolt through from the top:

AN3-26A
3/16" x 3/4" Penny Washer
Nylon Reducer
Wing Sail, Leading Edge, Wing Sail
Nylon Reducer
3/16" x 3/4" Penny Washers
3/16" Nyloc

Use the inner most hole. Make sure that you do not over tighten the bolt and crush the tube.

6. With the wing still partly folded the centre undersurface zip can be zipped up, along with the velcro.

7. The leading edges can be opened out completely at this stage, and all the top surface battens can be inserted into place. The wing can now be tensioned, but only onto the first pull back at this time. Take care when tensioning, as the trailing edge of the wing will be resting hard onto the keel. Ensure that the pull back assembly does not snag. Check that all battens are in place by gently tapping with a nylon hammer.

8. At the nose of the wing check the leading edge foams, and trim off any overlap with a pair of scissors.

9. Place king post with top rigging already attached, into the ear bracket, and fasten as shown on drawing BK-108, tieing the pull backs to the king post with bungee. Feed the side wires into holes in top surface, and feed the front cable through the hole in the sail and connect onto bolt, tighten and secure with split pin. Insert the nose batten at this stage, and tie a piece of cord onto the ducks foot. The loop should be long enough to hook over the keel tube.

10. Tension the wing up fully, this may be quite tight because the wing is brand new and the sail has not had time to stretch yet.

11. Lift up the nose of the wing and support it clear of the ground. The A frame, complete with lower rigging is to be fitted at this stage. Ensure that the A frame is the correct way around, i.e. monobolts at the top of each upright will face forwards once rigged. The A frame is fitted using AN4-17A bolts through from the rear. Two 1/4" washers are fitted between the A frame and the ear bracket, and a thin 1/4" washer is fitted under the nyloc. See BK-109.

12. The rear wires can be attached to the keel as shown on drawing BK-108. Do not over tighten this bolt as the rear wires must be free to rotate during rigging and de-rigging.

13. De-tension the wing.

14. The side wires are attached at this stage, and are fitted by working through the inspection panel. Thread the rigging wires into the holes, making sure that they are not twisted. **The front lower cable should be passed around in front of the cross tube, but behind the leading edge.** The bolt arrangement is as shown on drawing BK-106. It may be easier to remove adjacent battens, and to bring the wings in slightly. Do not tighten bolt up fully, as the cables must be free to rotate.

15. Insert the undersurface battens and tension the wing up fully again, it may feel even tighter now that the rigging wires are fitted. Whilst applying the tension check that the lower side wires are found to remain with some slack. If they are seen to go tight then stop and check that the cables are attached properly and not snagged on anything.

16. The wing can now be stood on its control frame. Check that the nose catch can be fitted without excessive force being required. With the rear of the wing keel resting on a work horse or similar the wing battens can have their cords fitted. All cords should be so fitted that they cannot be removed without the tool, and all cords should be to the same tension, and tied with a reef knot, (right over left and left over right). Cut all cords long as you work, and trim the ends after with a soldering iron or similar, to seal the cord properly.

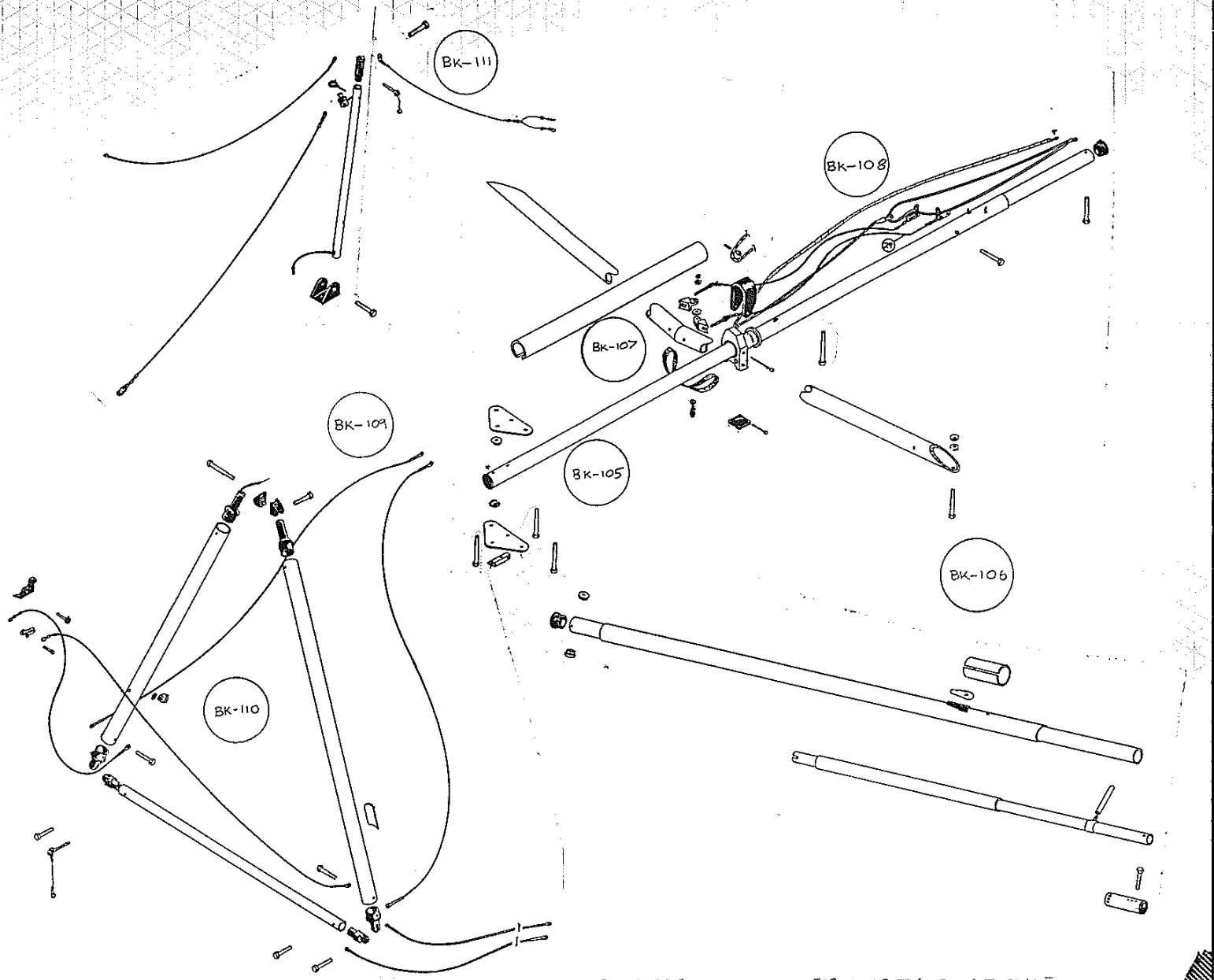
17. The luff lines should be fitted at this stage, as shown on drawing BK-111, and the trimmer cable connected to the luff line as shown, this feeds up between the two pull back cables. Check the stiffness of the trim wheel, and adjust with the split pin.

18. The holes at the wing root/nose should be drilled with a 1/8" drill bit, and fastened with a self tapper, nylon reducer and 3/16" washer.

19. Check that the hang bolt fits into the hang strap hole, and stick the warning placard onto the port A frame so that it can be read by the pilot. The trimmer placard should also be fitted to the upright behind the trimmer cable.

20. Fit nose cone. The wing is now complete, and requires a full inspection before de-rigging.

N.B. Do not stick registration letters onto the wing, unless you are very confident, these will be stuck on during the inspection process at Mainair.



SOME DETAILS OMITTED FOR CLARITY DO NOT SCALE

TO ORDER PARTS PLEASE SPECIFY:—QUANTITY, ITEM, DESCRIPTION, DRAWING NUMBER AND ISSUE LETTER

ITEM	DESCRIPTION	REFERENCE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
18		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		

DRAWN BY

CHECKED BY

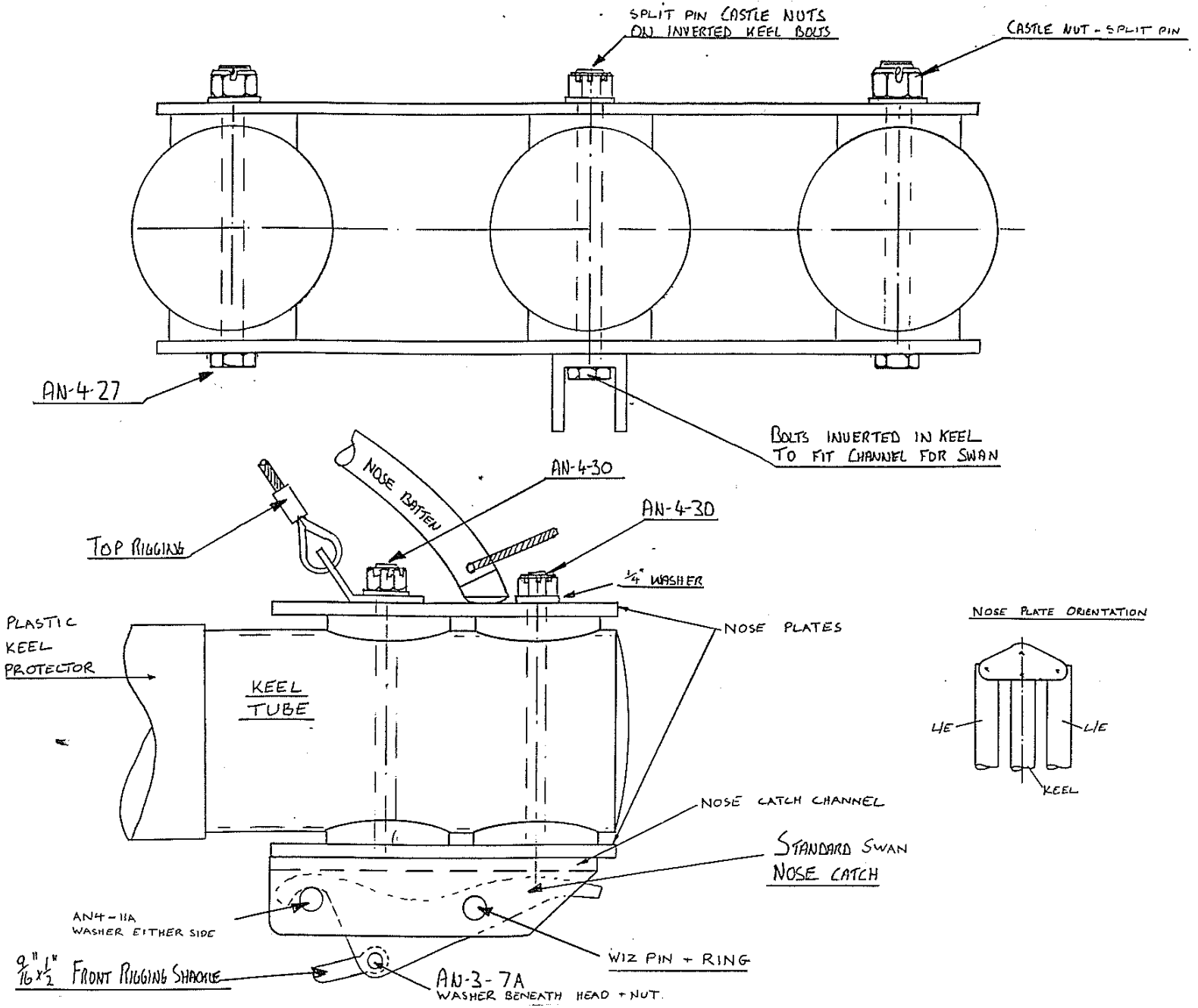
ISSUE	DATE	AMENDMENT DETAILS
A	10-1-95	ORIGINAL USE

TITLE GENERAL WING FRAME LAYOUT — BLADE

mainair sports

DRAWING No. BK-101

PAGE No.



NOSE PLATE ORIENTATION

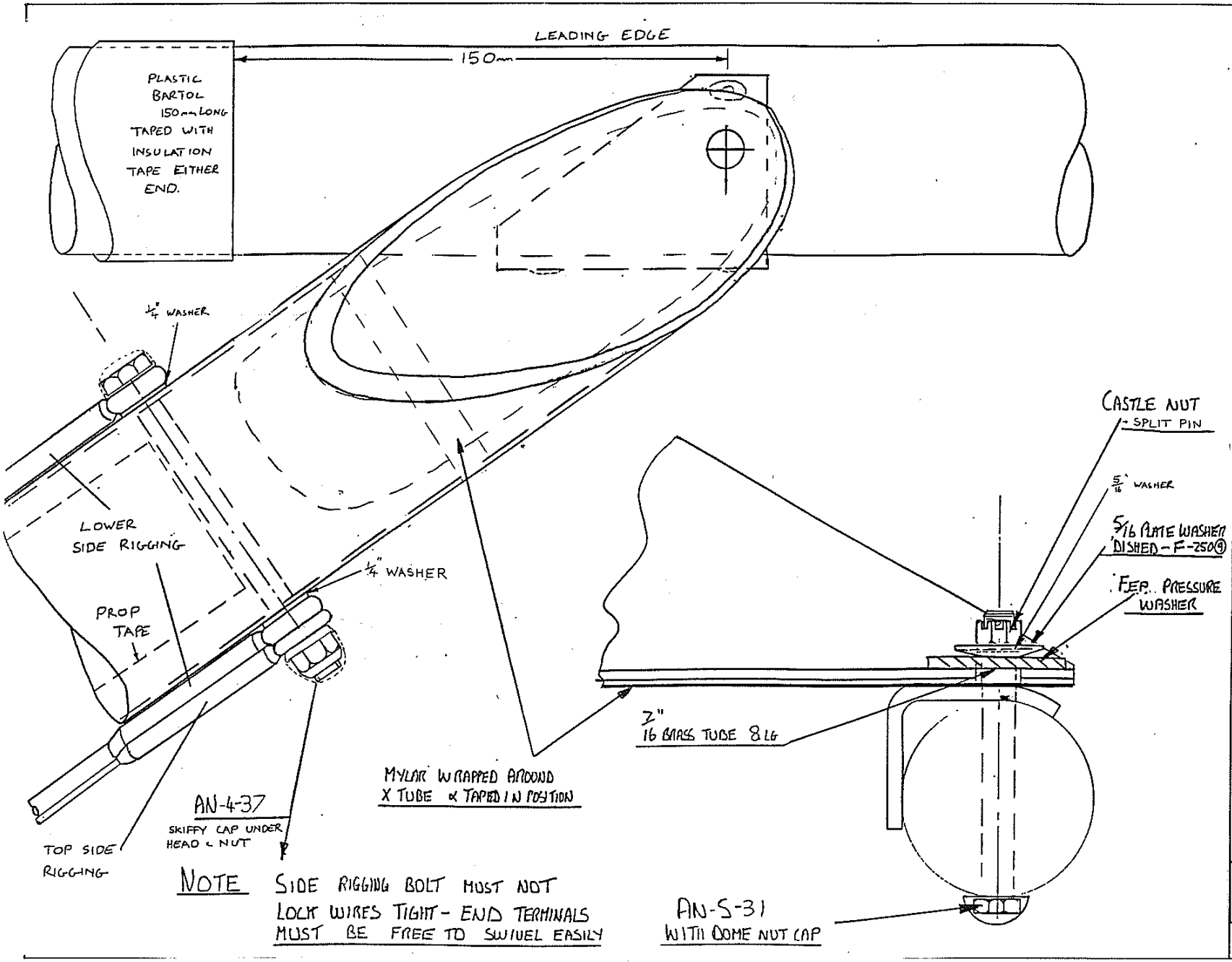
DWG NO.	BK-105
TITLE	NOSE ASSEMBLY
DATE	10TH JAN 95
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT

BLADE KIT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



NOTE SIDE RIGGING BOLT MUST NOT LOCK WIRES TIGHT - END TERMINALS MUST BE FREE TO SWIVEL EASILY

DWG NO. BK-106

TITLE LE/X TUBE ASSEMBLY

DATE 10th JAN 95

SUPERCEDES

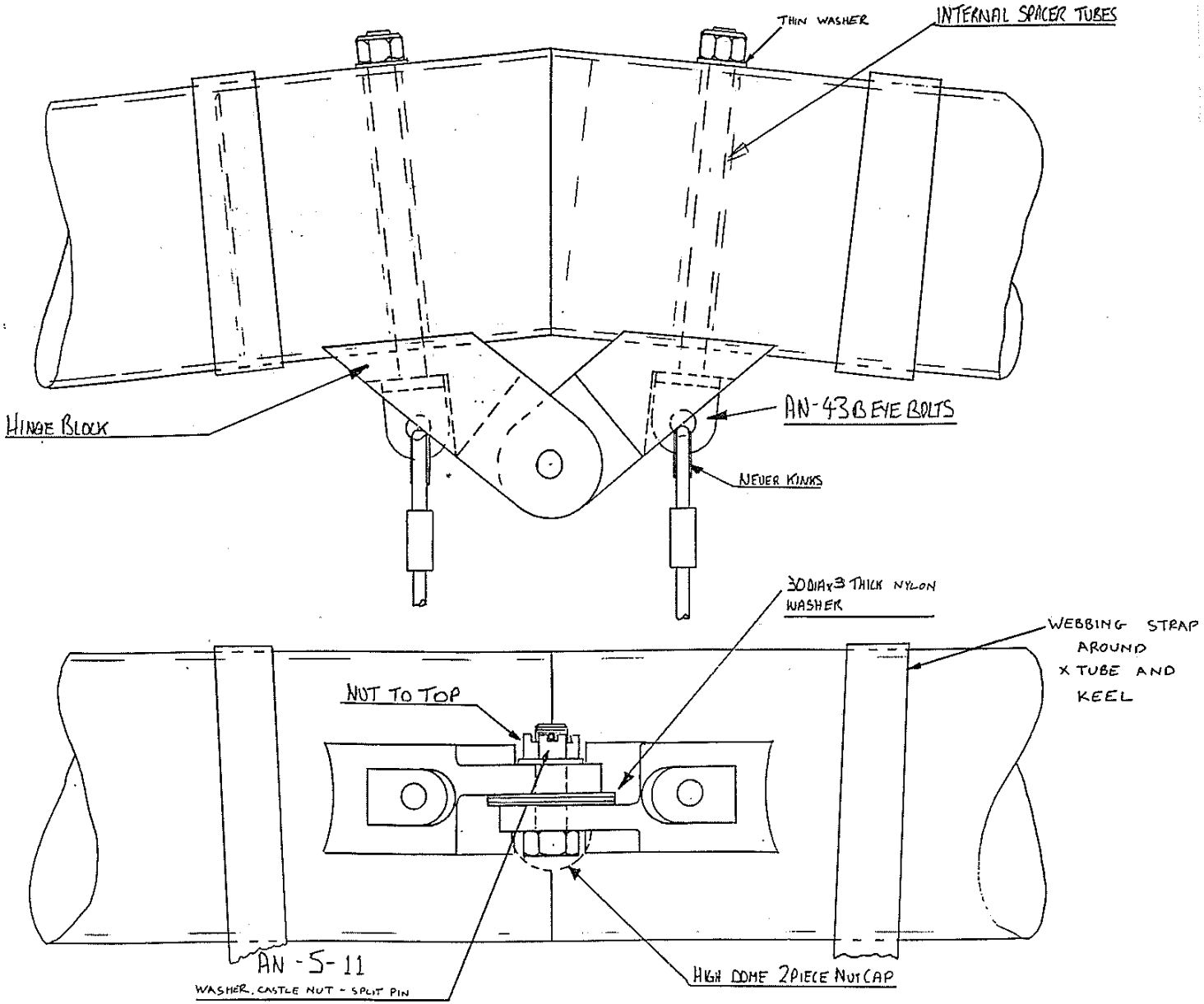
DRAWN BY bf CHECKED BY [illegible]

REF	DATE	AMENDMENT

BLADE KIT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



DWG NO.	BK-107
TITLE	X TUBE PULL BACK ASSEMBLY
DATE	10th JAN 95
SUPERCEDES	
DRAWN BY	CHECKED BY

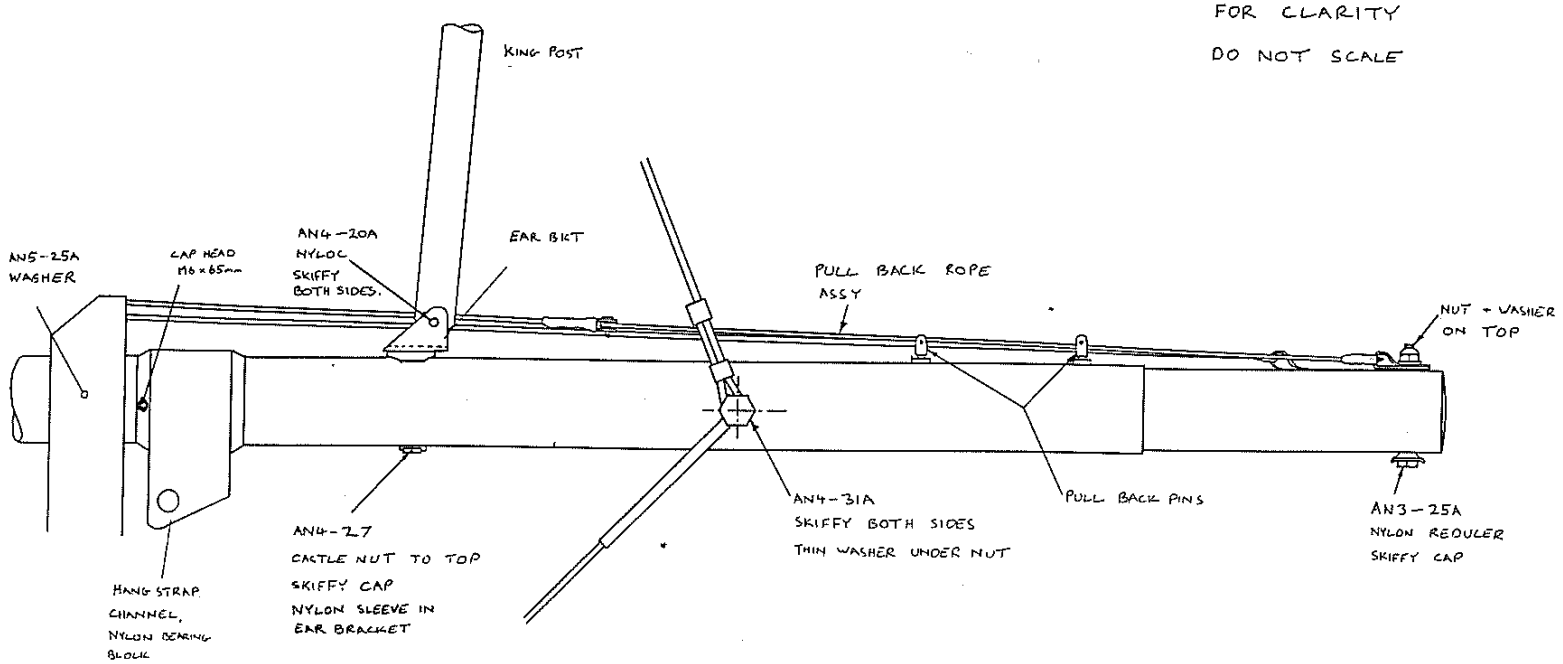
REF	DATE	AMENDMENT

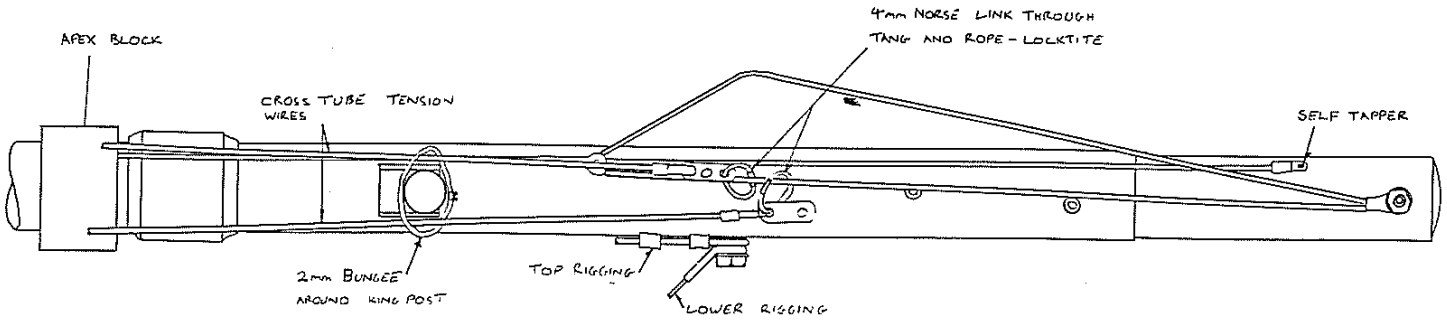
BLADE KIT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

SOME DETAILS NOT SHOWN
FOR CLARITY
DO NOT SCALE





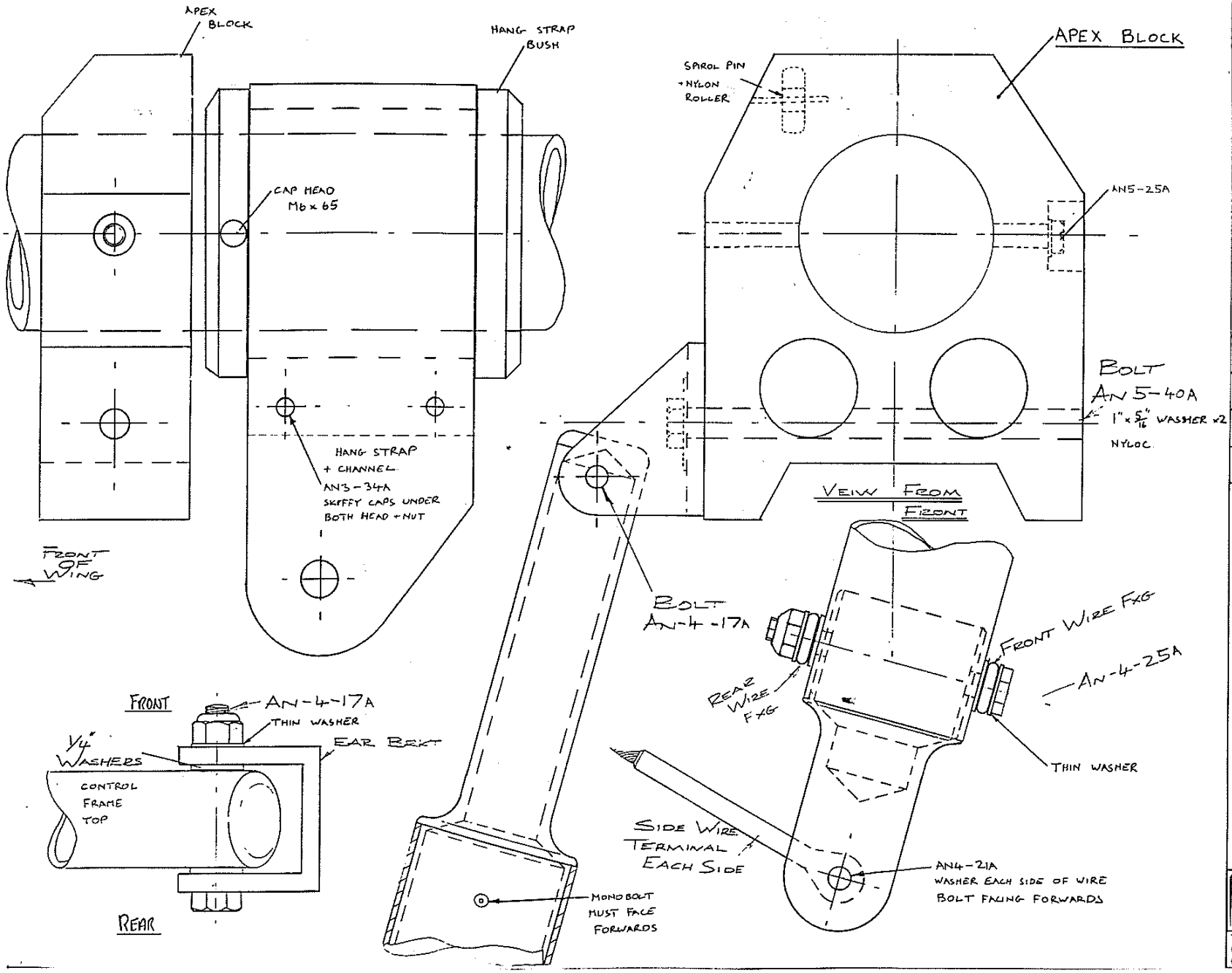
DWG NO.	BK-108
TITLE	KEEL REAR ASSEMBLY
DATE	10th JAN 95
SUPERCEDES	
DRAWN BY	BF
CHECKED BY	[illegible]

REF	DATE	AMENDMENT

BLADE KIT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



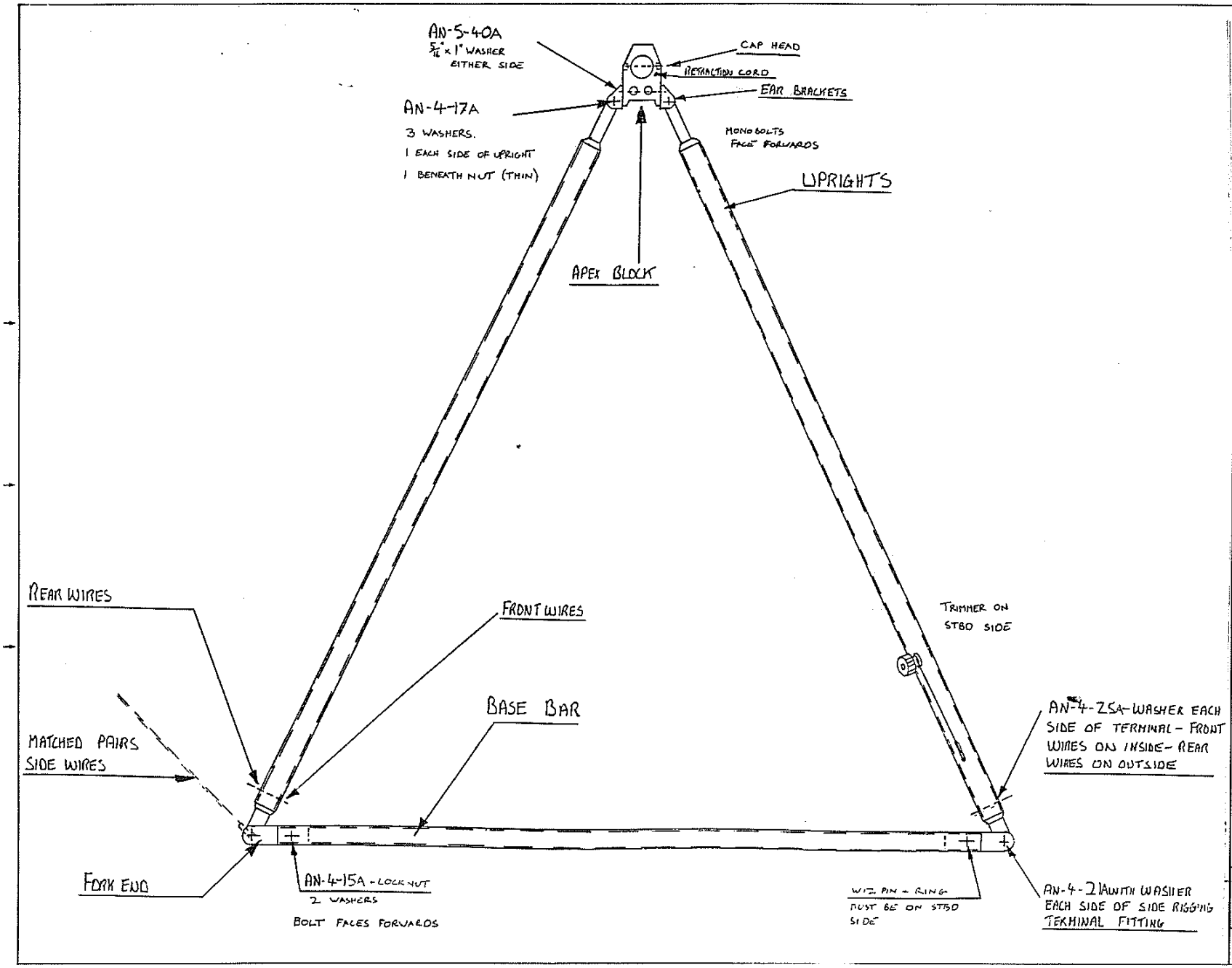
DWG NO.	BK-109
TITLE	HANG STRAP AND CONTROL FRAME ASSY
DATE	10th JAN 95
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT

BLADE KIT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



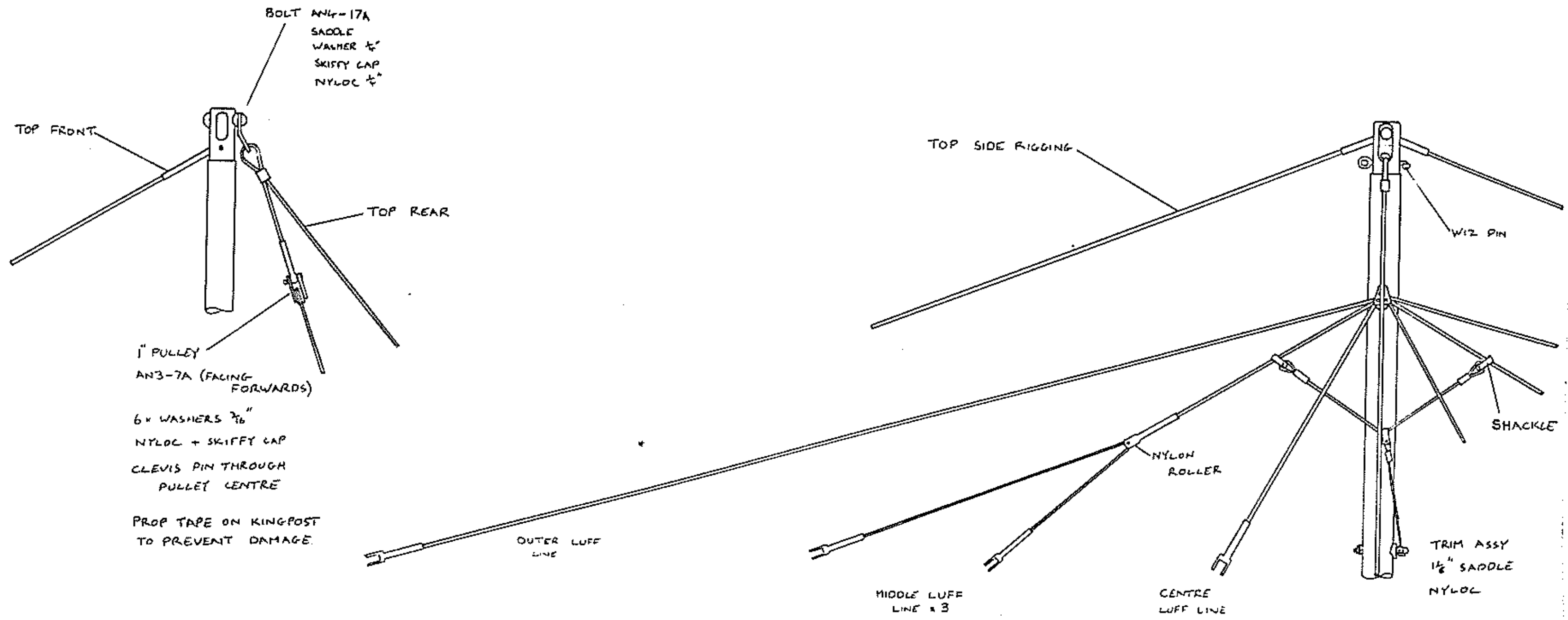
DWG NO.	BK-110
TITLE	A FRAME ASSEMBLY
DATE	10TH JAN 95
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT

BLADE KIT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



DWG NO. BK - 111	
TITLE KING POST AND LUFF LINE ASSEMBLY	
DATE 10th JAN 95	
SUPERCEDES	
DRAWN BY [signature]	CHECKED BY [signature]

REF	DATE	AMENDMENT

BLADE KIT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

TRIKE ASSEMBLY

Before you start to assemble the trike unit read through the instructions, and familiarise yourself with the drawings and component parts.

1. Assemble seat frame, starting with the top half, fit the seat. Slide long straps on first, then straps either side, followed by seat strap, **ensure that these long straps are free underneath the seat as shown on drawing MK-212.** Then slide lower straps onto lower seat frame, and fasten seat frame together, not forgetting the two R clips for the seat telescopics as shown on drawing MK-210. Check that all straps are not twisted, as it is far easier to correct now than later. Do not fit hand throttle at this stage, leave bolts protruding for now.

2. Fit the seat telescopics together with the ignition switch to the seat frame, see drawing MK-211, make sure that the seat strap is above the telescopic attachments, otherwise you will be unable to adjust the seat for dual and solo flight. The ignition switch cable should be fed up through the seat frame remembering to put a small grommet around the holes to prevent wear. The ignition switch is additionally bonded onto the seat frame using araldite as supplied. Then fasten the telescopics, this may require filing a spanner down to fit into the ear bracket. Check that the R clip fits into the telescopic, open out with a 1/8" drill if required.

3. Fit the bottom seat channel to the seat frame, together with rem straps as shown on drawing MK-213, the two AN4-22A bolts can be tightened until 1.1/2 threads are showing through the nut.

4. Assemble keel, see drawings MK-220 and MK- 221, ensure that it is facing the correct way i.e. small 3/16" hole at front facing upwards. Fit axle plates, the slotted plate is fitted to the bottom. Fit the two monopole plates, **the 5/16" hole goes to the top and faces forwards, this is very important.** The pulley and spacers can also be fitted at this stage.

5. Fit seat frame to keel, do not fit drag links at this stage, as shown on drawing MK-213.

6. Fit the monopole to the keel, see drawing MK-221, together with engine struts, note that the left hand strut has the ear bracket at the top fastened with monobolts. Ensure that the monopole is facing the correct way, with the aerial lead facing forwards. Do not over tighten this bolt, because it is the hinge bolt for rigging and de-rigging. Fasten a strip of prop tape onto back of monopole between the engine plate hole and the base to reduce wear caused by the fuel tank when in service.

7. Connect seat frame to monopole, see drawing MK-213, make sure that the seat straps around the seat frame are on the inside of the rem straps.

8. Assemble side struts as shown on drawing MK-222. Take the bottom section first, grease wire, then slide on one aluminium pressure pad, then four rubber balls then the other pad. There should then be a small loop sticking out the top. Slide lower section onto middle section and locate the

wire loop (retention wire) around the AN3-14A bolt, making sure that you do not crush the tube. Make sure that this is done correctly otherwise the legs will fold down during take off! This bolt should be facing inwards. Fit top ear bracket, this may require the holes drilling out to the correct size, **with bolt facing from rear to front**, do not over tighten bolt, see MK-223.

9. Fit the two side struts to the monopole, make sure that this bolt is fastened sufficiently, these must be able to rotate in order for the trike to fold easily, see MK-223.

10. Fit the axles, see MK-220. Fit the ear brackets for the side struts, which will require drilling to suit, see MK-224, do not tighten nut at this stage. Fit side struts with bolt facing from front to rear. Fit the axle tie wire, checking that the end terminals are bent approximately 10 degrees. Tighten bolt. The ear brackets for the drag links can now be fitted, these may require the holes drilling out to suit. Do not tighten this bolt as it is used for the wheel spat attachment, however ensure that it will not fall off during construction.

11. Fit the two ear brackets, these may require drilling out to suit, for the front of the drag link to the keel, then fit the drag links, ensuring that the chamfer is on the outside, see MK-213. Slide the fabric onto the drag links, making sure that it is the correct way around. Fasten drag links to ear brackets on the axles, bolts face downwards, see MK-224.

12. Assemble rear wheels, tyres and tube, fitting bearings with spacer in-between as shown on drawing MK-242. When fitting the wheel onto the stub axle extra washers may be needed if the axle is slightly too long.

13. Fit the bottom section of the telescopics to the keel, remembering to fit the seat belt retaining wire. This is further held in place with a cable tie. Make sure that the telescopic top half is around the correct way, with the **chamfer facing rearwards, otherwise damage will occur to the seat frame whilst folding, see MK-211.**

14. Assemble the front wheel, fit the sealed bearings, with the spacer between, see MK-240. Fit tyre and tube, **ensuring that the valve faces away from the brake**, otherwise this will catch and result in a flat tyre.

15. Fit the trailing link to the shock absorber, this is fitted to the thinnest end, which will be the lowest point, see MK-228. Then attach the shock absorbers to the fork together with the mud guard, make sure that the shock absorbers are screwed all the way in, and then out half a turn so that they are equal length. The top bolt must face outwards to avoid fouling the tyre. The trailing link can then be fitted, to the fork legs, remembering to allow for the brake which is fitted with the wheel. Next fit the wheel and axle bolt, making sure that the brake is on the correct side.

16. Fit the throttle pedal and the brake pedal, taking up any excessive play with thick or thin washers. Secure with a split pin, see MK-228. Finally the brake cable can be fitted.

17. Assemble front stub, see MK-225, by first installing head set tube and nylon head bearings. Make sure that they are the correct way around, and position the top bearing with the grease nipple hole at 45 degrees rearwards. Fit front stub to forks, but do not tighten bolt at this stage, as the forks will be removed again prior to fitting the pod, MK-225 for details. If the forks are found to be a tight fit, trim the head set tube, or lightly spread the cross members on the forks.

18. Fit the front stub to the keel, push the stub all the way in, and line up the wheel with the monopole and keel. Drill out holes to 1/4", get someone to help line up the vertical hole. Slide stub out and de-burr all the holes, both inside and out, then re-fit the stub using plenty of Araldite, and bolt into place. Fitting the pulley, and cockpit retaining wire as indicated. See MK-225.

19. Prepare the cockpit for fitting. First drill the small vertical pip on the top centre of cockpit, with a 1/4" drill, for windscreen. Then drill the hole for the front strut, this should then be opened out with a hole saw to 1.1/8" diameter. A 3/16" hole is required at the lower front pip for the cockpit support strut. At the rear of the cockpit two 3/16" holes are required in the undersurface, and a further two on the sides for the cockpit foot rest. These four holes are also used to secure the cockpit fabric. Once all holes are drilled the cockpit strut can be fitted. Do not over tighten. It is easier to drill instrument holes once the cockpit is fitted to the aircraft. See MK-226. In addition prepare the aluminium strip for the cockpit fabric. Bend this to shape, and trim to length as required. Mark and drill the 4 holes already located in the cockpit recess, and drill the other two holes accordingly.

20. Fit the windscreen, by first fitting centre of windscreen, then following round. Make sure that you remove backing plastic from around holes before fixing into position.

21. Fit the cockpit bracket to the front stub first, see MK-226. Then fit the 2" rem strap to the keel together with two cockpit brackets. This is fitted behind the 3/16" holes in the keel. Do not fasten tightly until the cockpit is fitted. Offer the cockpit into position, and then slide the front forks complete with nose wheel onto the front stub, and fasten in place. Fit the lower front strut, and the cockpit strut, do not secure at this stage. Fit the cockpit foot rest bar temporarily, as this is fastened securely after fitting the fabric skirt. Similarly fit the rear cockpit brackets and retaining wire, with the bolts facing upwards through the cockpit floor, again leaving loose until after the fabric skirt has been fastened.

22. Fold the trike unit down, and fit the front strut channel, engine rigging and front strut top, see MK-227. Ensure that the chamfer is facing rearwards, and that the bolt is tightened sufficiently for the front strut top section to still be able to rotate. The backup loop should be fitted at this stage, make sure that the ends have been bent approximately 10 deg to allow correct fitting of the loop. The hang bolt should also be fitted.

23. Fit the front strut centre section, if it is out of line with the lower section the pod will require filing out until the strut drops easily into place.

24. The aluminium strip should be inserted into the front of the skirt, a small cut out is in the skirt for this. The holes in the strip should be located and burnt in the skirt using a soldering iron or similar. If you try to drill these you may tear the fabric if the drill grabs. Offer the skirt into place, and fasten all bolts accordingly. Locate the position for the map pocket, ensuring that it does not foul the steering. The short alloy strip is drilled in two places and slid into the seam at the top of the pocket, and then fitted in conjunction with the skirt.

25. With the trike folded tie the back of the skirt as shown on drawing MK-221, the edge of the skirt should just cover the front of the pulley. The back of the skirt should be pulled up and the hole for the self tapper drilled. The skirt should then be attached, and the trike unit stood back upright. The skirt should then be tied around the seat frame as shown on drawing MK-213, and then the final bungee should be tied around the eyeleted hole and around the P clip on the back of the monopole channel. This last bungee holds the skirt in away from the leg. The seat strap tube can also be fitted at this stage, see drawing MK-212 for details. The fuel tank neck hole should also have a piece of bungee inserted such that it is tight around the filler neck when the long range tank is installed.

26. Fit the steering damper, together with the nylon steering stop which should be trimmed to suit, as shown on drawing MK-225.

27. Fit the seat foams, the wider foam is for the rear seat, and these are fitted in through a hole in the underside of each respective seat. Ensure that they are fitted the correct way around as shown on MK-212, **be patient when fitting as the foam can be easily damaged.** Slide the front seat wood beneath the seat, after first removing all sharp edges. There is no seat wood for the rear seat.

25. Engine preparation. Check that the engine is correct and that all bolts are fastened properly. The head standoffs should already be in place for the fitting of the engine cross angle mounts. The eight lord mounts should be fitted to the cross angles and the engine mounting plate as shown on drawing BK-230, BK-231 and BK-233, as appropriate, **note the orientation of the lord mounts, this is important.** The cross angle mounts should then be fitted to the engine box mounts, as shown, **do not over tighten these bolts as the box mounts will crush, and require replacement.** Note the bolt orientation, and also that the mounts are handed. These can then be fitted to the engine, you may need to file out the holes slightly in order to fit. The engine should then be turned over so that it is resting upside down, and the lower engine mount fitted, as shown on drawing BK-233. If the original engine studs, are still fitted these should be removed, either use a pair of mole grips, or two M10 nuts tightened one against the other. A pair of long nose pliers are useful for fitting the top hat. The rubber D section is quite pliable, but some patience will be needed. The engine can then be turned back over, the correct way up.

27. The wiring box should then be assembled, ready for installation with the engine as shown on drawing MK-234. Fit all rubber grommets. The main loom is best fitted to the connector block before bolting the connector block into the box. Strip each wire back approximately 1/4", and then solder the end ready for fitting. Fasten all wires as per the wiring diagram in the aircraft manual,

even if you do not wish to fit all the instrument options, as it makes fault finding or future upgrades easier. The wiring from the box to the engine is carried out once the engine has been fitted.

28. Fit the engine to the airframe, see BK-230, BK-231 and BK-233 as appropriate, you may find that it is easiest with a helper and also with a small hoist to take the weight of the engine whilst offering it upto the trike. Make sure you have all bolts ready to hand. First fit the engine table bolt that passes through the monopole, not forgetting the engine earth strap, note orientation. Then fit the two engine struts onto the engine table, note that for the Rotax 462 engine these are secured with exhaust rubbers, see drawing BK-252. Finally fit the box mounts together with the wiring box. Note the bolt orientation, also you may need to file the edge of a washer away if it fouls on the weld. **Do not over tighten these bolts as the box mounts will crush, which will then require replacement.**

29. Fit the engine support wires, these bolts should be tightened such that the wires are still free to rotate, BK-230 or BK-231.

30. The fuel pump, fuel tap and fuel line can now be installed, note the routing of the fuel line on BK-239, MK-240 and BK-253, as this routing has been used for many years, and has shown itself to be trouble free. The over springs should be cut to approximate length, and should be such that they are compressed when fitted, this may require stretching some of the springs to fit. **When cutting the fuel pipe use a sharp knife,** and if fitting is tight, for example at the fuel tap, use vaseline to ease fitting. If you suspect that the fuel pipe end has been damaged whilst fitting remove the pipe, trim the end and start again. It is important that no small particles are allowed into the fuel line or system as they may cause a blockage and engine failure at the most critical stage of flight.

31. On the Rotax 462 the carburettor and intake silencer can now be fitted, ensure that the carb is mounted exactly as per the Rotax engine installation requirements. The intake silencer should be loosely fitted to the carburettor, and lined up for drilling for the two supports, make sure that the Air Box bolt set will fit. After drilling the intake silencer remove it, and clean all swarf from within. The lower of the two intake plugs can be removed to fit the bolts and to aid cleaning. Once fitted the intake silencer filter can be fitted, ensuring that the plug is firmly back in position. The intake filter should be wired in place using the hole in the intake silencer box, and passing the lock wire through the rubber case of the filter. See MK-236.

32. For the Rotax 503 the twin carburettors can now be fitted, ensure that the carburettors are mounted exactly as per the Rotax installation instructions. The intake filter should be fitted.

33. The gearbox, should next be filled with oil, use either EP90 or EP140 oil, and fill upto the level screw, **which is the lower of the two screws on the side of the gearbox.** Before filling check that the drain plug is fitted and tight. After filling wire lock all connections, these are the

drain, the two level screws on the side, and the breather/filler. **If you forget to fill the gear box with oil the gearbox WILL fail and your warranty WILL be invalid.**

34. On the Rotax 462 engine fit the radiators, see drawing BK-252 and BK-255 for fitting details. The bracket for the lower hose has to be gently bent to suit. Ensure that when cutting the hoses to fit, that they do not rub on any other part of the aeroplane, remember to make allowance for the exhaust brackets.

35. Fit the spark plugs, checking that the plug gap is as per the engine manual specifications, and fit the plug caps. Remember to fit any cylinder head senders at this time if required.

36. The wiring can be connected to the wiring plug which is then cable tied neatly at the front of the engine. Look in the aircraft manual for the correct wiring sequence. On the points ignition engines (single spark plug per cylinder) the yellow and green and the yellow/black and green/black wires will need the green and green/black wire cutting from the terminal and a new spade fitting. Trim the plastic protector terminals from the engine fittings. The cable running from the plug to the wiring box should be fitted with protective over sleeve. The remaining socket in the plug should be used for a cable tie which should further hold the plug together.

37. Feed the cables into the wiring box through the grommets, also fit the ignition cables and any cylinder head or exhaust gas senders. The sender cable should be neatly coiled, by winding around a piece of 1 inch tube or similar to take up surplus length, the end fittings for these will plug straight into the connector block. The engine wiring should have the ends stripped back approximately 1/4" and the end soldered to ensure a good contact. Tighten only those screws with a cable going into them. Stick a piece of insulation tape over the connector block to ensure that those screws which are currently loose will not fall out. Fit the wiring box lid, but **do not secure with locktite as the lid will be removed during inspection.**

38. Fit the exhaust manifold, not forgetting the exhaust gaskets, with the outlet facing forwards and at 90deg to the engine, see drawing MK-236. Wire lock the bolts in place. The exhaust bracket should next be fitted, and similarly wire lock the two bolts in place, also fit the rubber exhaust bobbin. The other exhaust bobbin should be screwed into the engine casing. The exhaust should be fitted using copper slip or similar around the ball joint. The springs should finally be fitted and then wire locked in position. The locking wire should be doubled in this region, and pass through the spring and lugs then around the outside. The wire locking should not be tight, as it is there to support a spring should it or the metal lug fail, and if tight could help to transmit vibration.

39. Fit the two earth straps onto the pull start housing bolts, one to each of the lower mounting bolts.

40. Fit the rear fuel tank, this may be difficult the first time, and may be easier with the trike unit folded. If the hole for the engine strut is found to be excessively far from the hole in the ear bracket it is acceptable to space the ear bracket with large washers to help line up.

41. The throttle cable and choke cables can be fitted, see MK-228 and MK-235, make sure the routing is correct, as shown on drawing MK-237. Do not forget the dust covers. The choke cable is best fitted to the choke by releasing the choke lever and letting the cable off further than is normal. Then fit the choke lever onto the seat frame, and finally screw the choke back into its housing on the carburettor. The throttle is connected to the carburettor first, ensure that reassembly is correct, referring to the engine manual if unsure. **The white nylon spring cup should be above the needle and spring clip, this is very important.** Fit the foot throttle and hand throttle ends as shown. Check the adjustment and travel of the throttle, they should be such that the outer cable has a small amount of free movement when seated in the carburettor with the throttle and choke closed.

42. The hand throttle cover and handle can now be fitted, if the throttle is found to catch the slots in the cover these may be further elongated with a file, MK-235.

43. The pull start rope should be routed around the two pulleys and below the cockpit foot rest bar. Use a double knot in the handle.

44. Drill the instrument panel for the instruments, check the spacings carefully to ensure that the instruments will fit, and also that enough room is available should you wish to add to the layout at a later stage. The central pip in the dash is for the compass, the other pips should be disregarded. Use the correct size hole saw for the holes otherwise you could spoil the whole appearance of the aircraft. The compass is fitted using small nylon nuts and bolts supplied. The round ASI is mounted from behind, and two screws are used which self tap into the plastic case. Mistakes are hard to rectify in this area so double check before drilling. Fit cockpit edge trim.

45. Connect up the engine instruments from the wiring loom. Those cables that are not used should be taped back for future use, do not cut these off short. The complete wiring, and throttle cable should be neatly tied up using a cable tie to the side of the cockpit.

46. Fit seat belts, referring to drawing MK-212 for routing details. The longer of the two belts fits the rear seat.

47. Fit the exhaust guard onto the engine box mount. This will require filing to fit, remove only that which is required to ensure that it is tightly fitted. Before drilling the hole for the self tapping screw fit the engine cover. This will also require filing around the exhaust guard area to ensure a good fit. Cockpit edge trim should be fitted where it contacts the exhaust guard. With the engine cover fitted you can determine where to drill the exhaust guard for the self tapper, do not forget to allow enough room for the skiffy cap. Use locktite with the self tapping screw, see MK-240.

48. Install the propeller, following the relevant instructions supplied with the propeller.

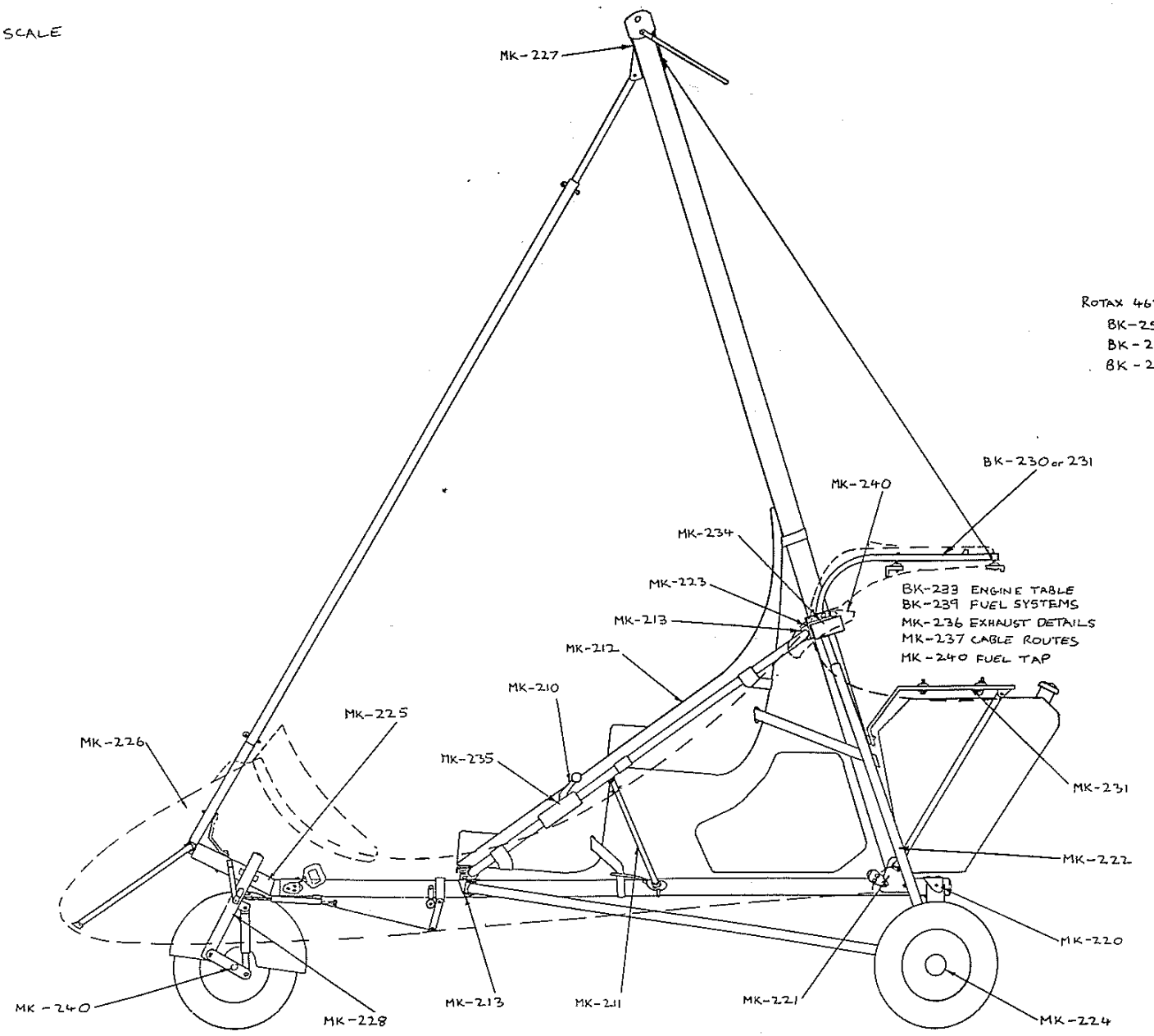
49. Fit cockpit stickers, these are applied by first trimming to within one inch of the edge of each logo. Then trim to the edge of one part of the logo and offer the logo upto the cockpit. Mark on the cockpit the position of this trimmed edge and repeat on the opposite side to ensure symmetry, them remove the backing paper and the offer the design to position, once satisfied smooth logo onto cockpit and then remove paper.

50. Fit all placards, the main placard onto the keel tube, the throttle placard on the top of the throttle cover, the ignition switch placard onto the ignition switch housing (forwards is off), the fuel tank placard on the back of the engine cowling, and the fuel tap placard on the engine cover adjacent to the switch. Finally install the owners name plate onto the monopole channel using self tappers, this plate by law requires only the registration number of the aircraft.

51. Fit wheel spats as per drawing MK-243.

Your Rapier trike unit is now completed, and should be inspected to check that no bolts have been left loose etc, follow the inspection schedule in the aircraft manual to make sure. You should also contact Mainair Sports for final inspection so that the documentation can be organised for its first flight and the issue of a Permit to Fly. The inspection by Mainair Sports will take 4 hours or more and will include initial running of the engine. If you require your engine to be run on a particular brand of fuel and oil ensure that you have some available for the inspection. **Under no circumstances should you attempt to run your engine, if you do so you will invalidate all warranties.**

DO NOT SCALE



ROTAX 462 COOLING
BK-252
BK-253
BK-255

BK-233 ENGINE TABLE
BK-239 FUEL SYSTEMS
MK-236 EXHAUST DETAILS
MK-237 CABLE ROUTES
MK-240 FUEL TAP

DWG NO.	MK-201
TITLE	RAPIER TRIKE GENERAL ASSEMBLY
DATE	6th NOVEMBER 1996
SUPERCEDES	
DRAWN BY	BK
CHECKED BY	JRellie

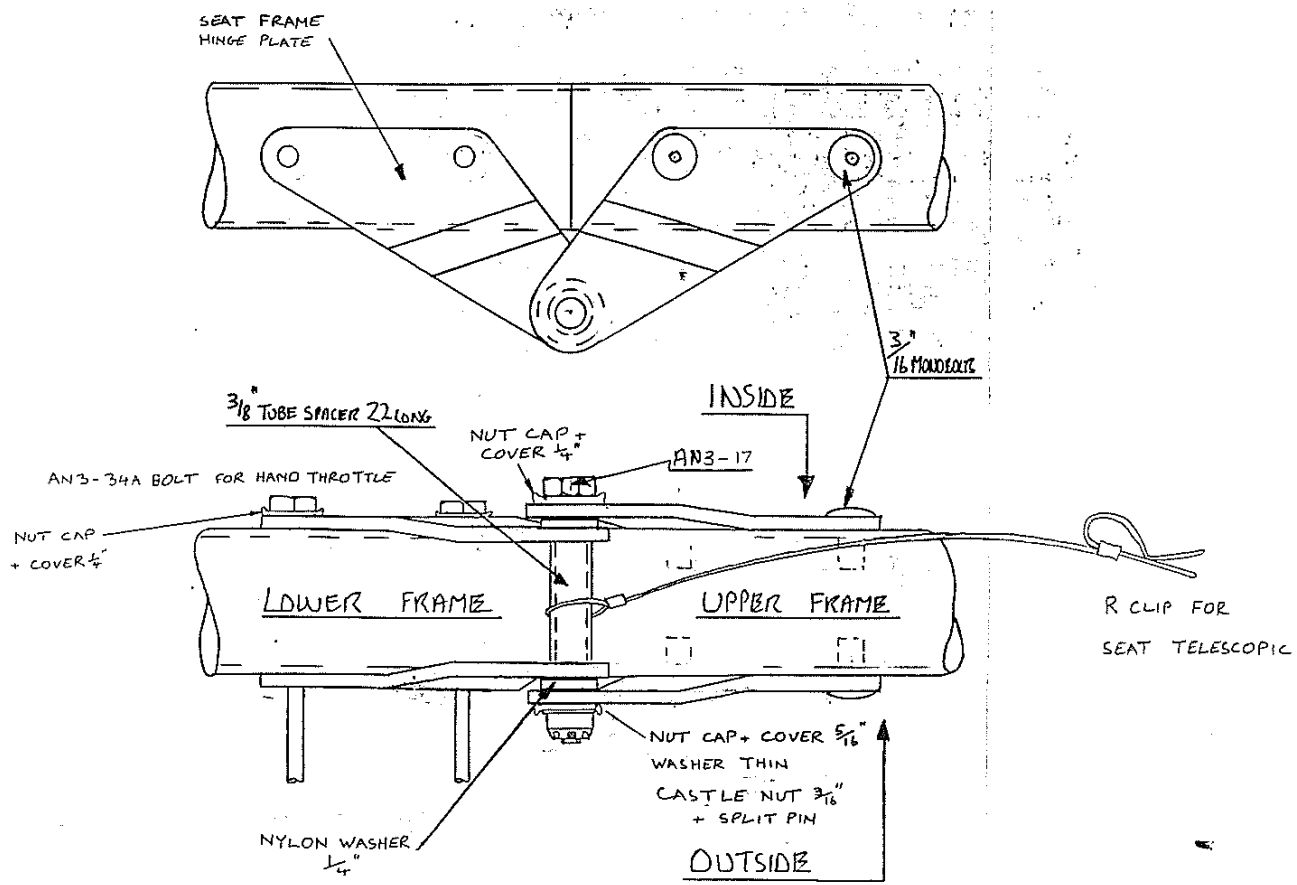
REF	DATE	AMENDMENT

SEE "MK" AND "BK" SERIES DRAWINGS FOR FURTHER DETAILS

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

LEFT SIDE SHOWN



DWG NO.	MK-210
TITLE	SEAT FRAME HINGE
DATE	15TH DEC 93
SUPERCEDES	
DRAWN BY	BF
CHECKED BY	JE Lee

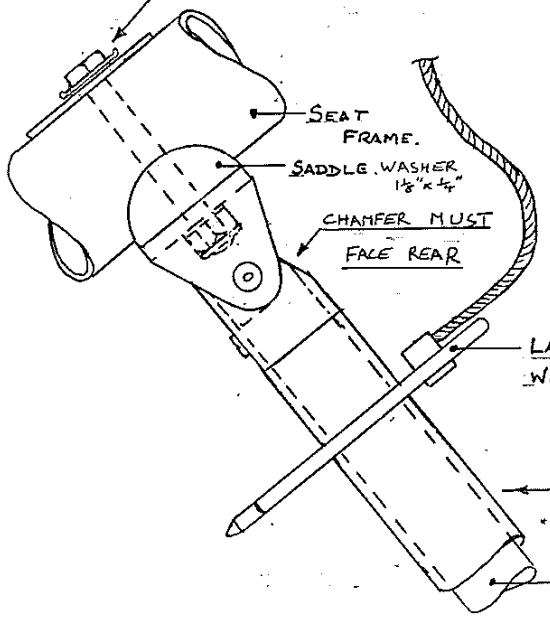
REF	DATE	AMENDMENT

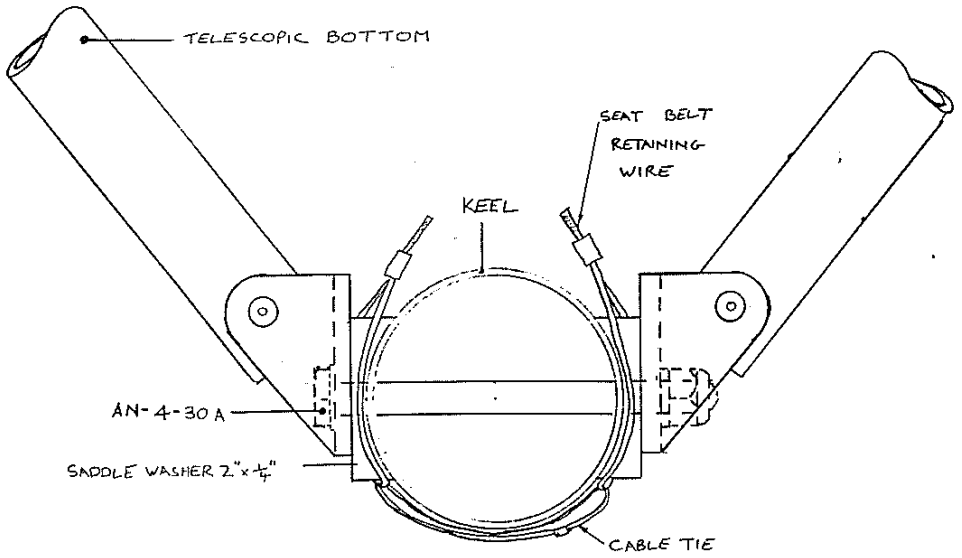
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

RIGHT SIDE: AN3-17A
NUT CAP + COVER 1/4"
WASHER THIN
IGNITION SWITCH

LEFT SIDE: AN3-17A
NUT CAP + COVER 1/4"
WASHER THIN
1 1/8" SADDLE WASHER





NOTE
IF TWIN IGN FITTED SECOND SWITCH MNTD BELOW ORIGINAL AND FASTENED WITH 3/16" MONOBOLT. DRILL 3/16" HOLE IN SITU

DWG NO.	MK-211
TITLE	SEAT TELESCOPIC
DATE	15th DEC 1993
SUPERCEDES	
DRAWN BY	pf
CHECKED BY	J Cuddle

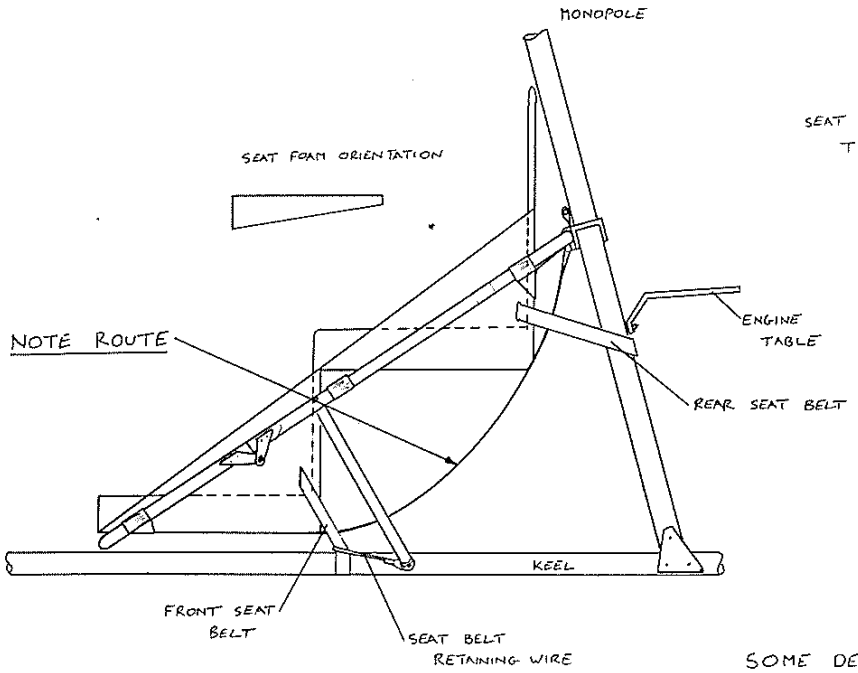
REF	DATE	AMENDMENT
A	2/8/94	NOTE ADDED FOR TWIN IGN pf

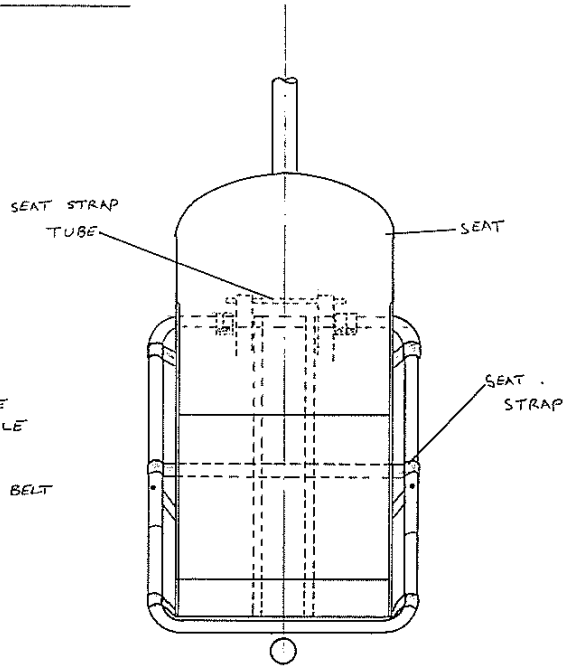
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

NOTE: 2" WEBBING AT TOP OF SEAT DOES NOT FASTEN AROUND SEAT FRAME BUT SLIDES BETWEEN FRAME AND CHANNEL

1" WEBBING FROM FRONT OF SEAT FASTENS AROUND SEAT FRAME TOP - NOTE ROUTING





SOME DETAILS MISSING FOR CLARITY

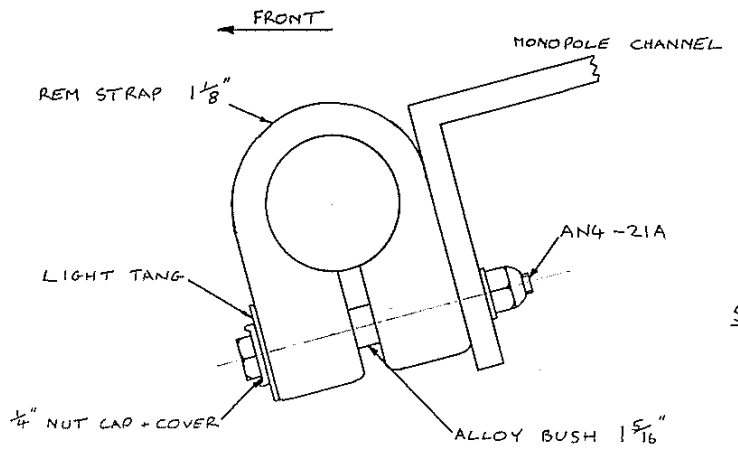
DWG NO.	MK-212
TITLE	SEAT + BELTS
DATE	15TH DEC 1993
SUPERCEDES	
DRAWN BY	CHECKED BY

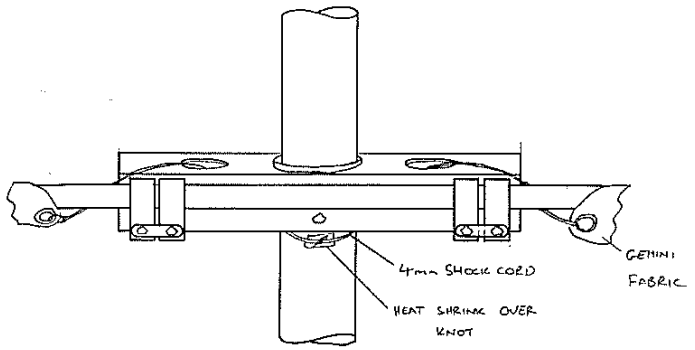
REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

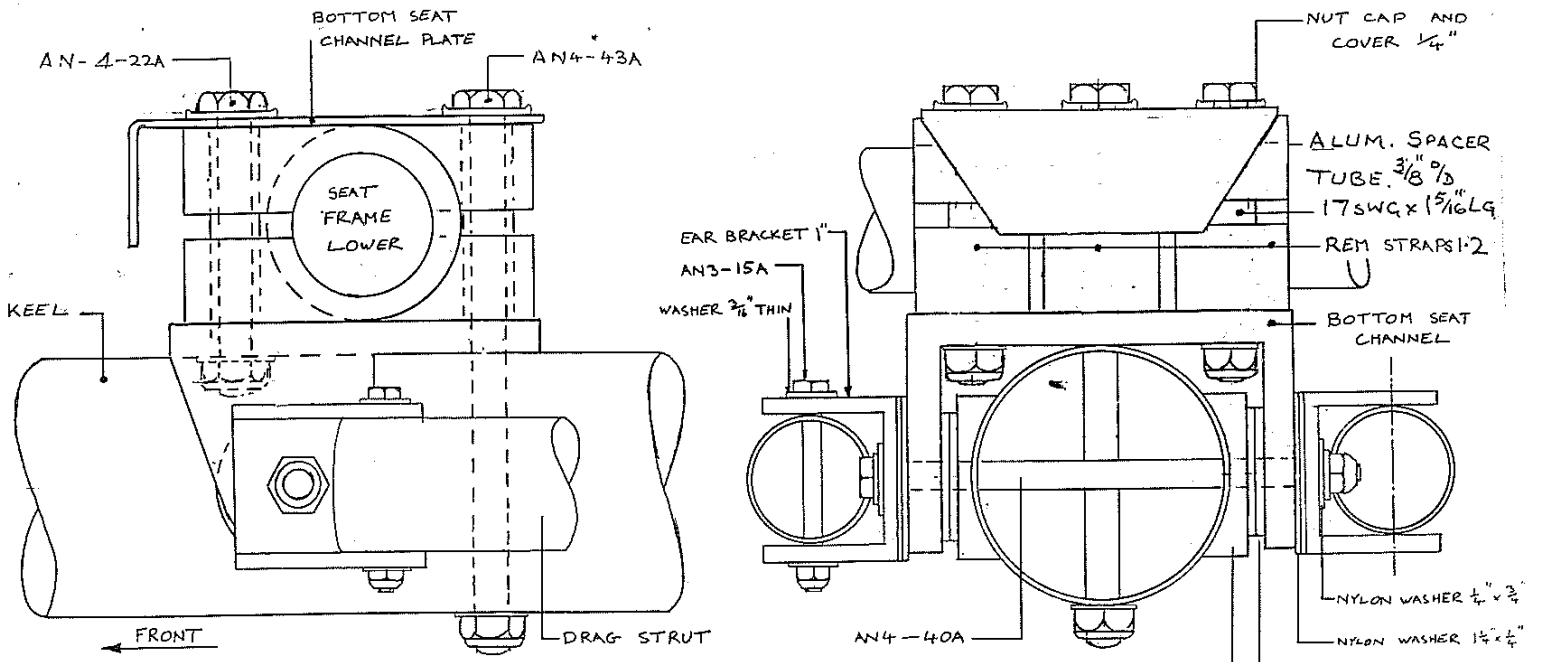
DO NOT SCALE





SEAT FRAME TOP MOUNTING

(SOME DETAILS OMITTED FOR CLARITY)



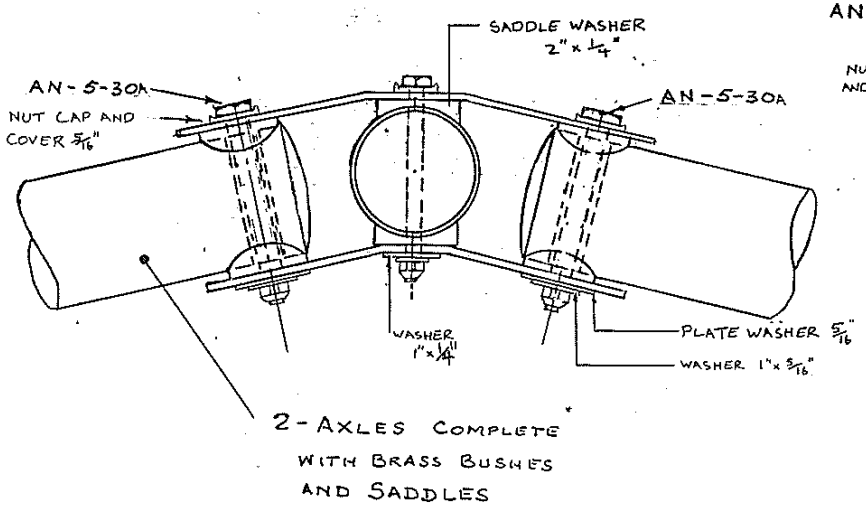
SEAT FRAME LOWER MOUNTING

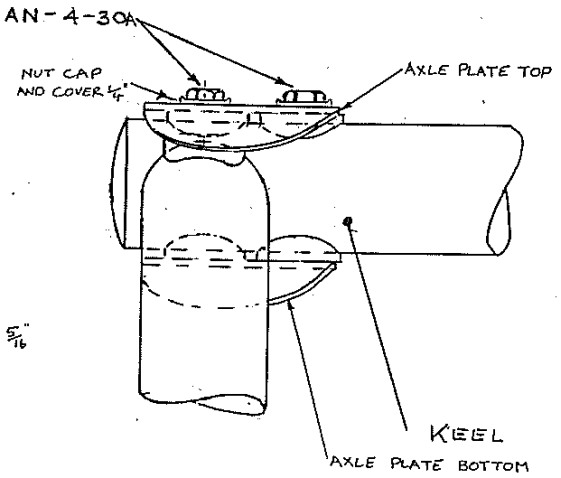
DWG NO.	MK-213
TITLE	SEAT FRAME ATTACHMENT
DATE	16th DEC 1993
SUPERCEDES	
DRAWN BY	RF
CHECKED BY	J e Cole

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM





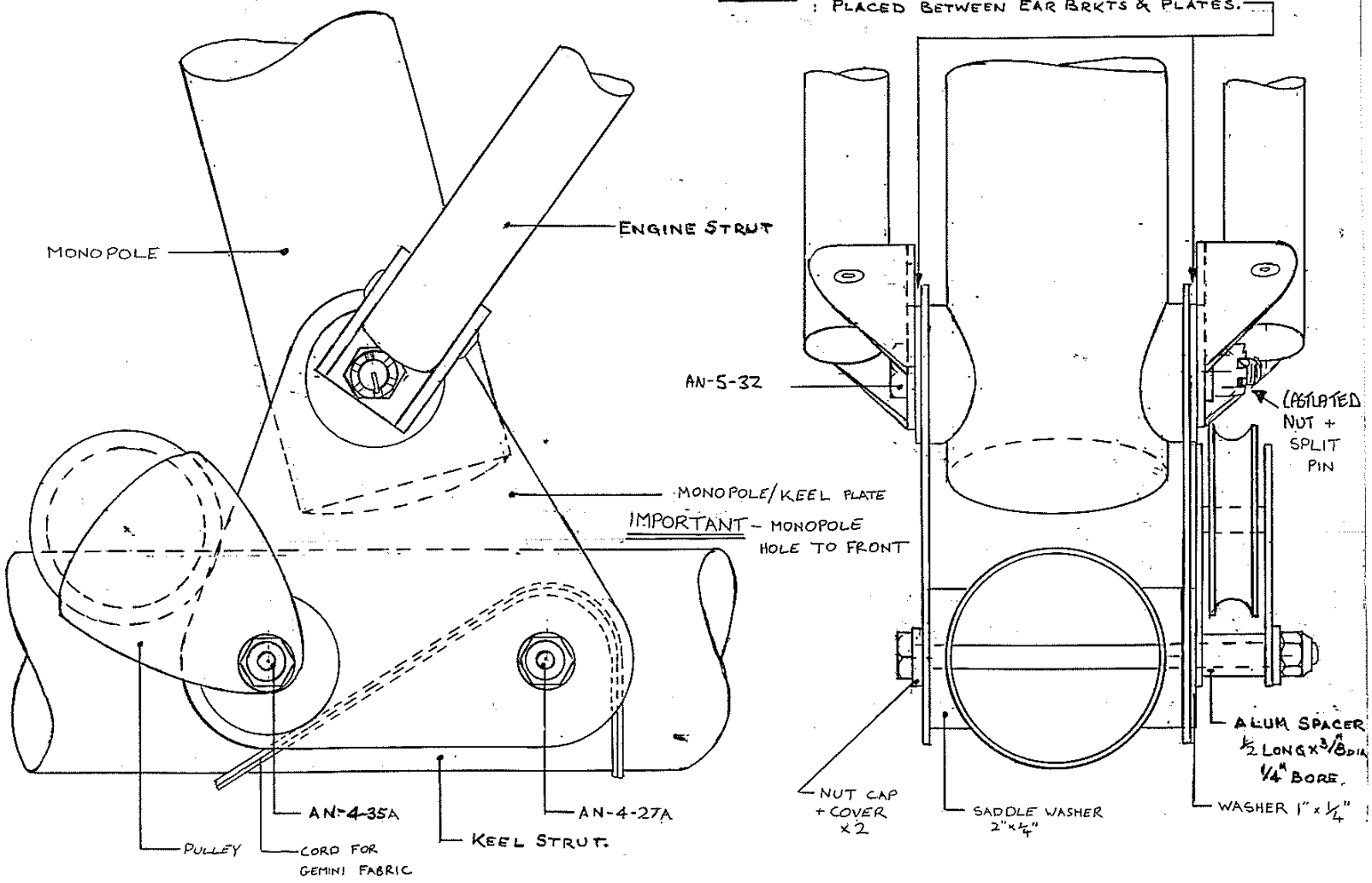
DWG NO.	MK-220
TITLE	KEEL REAR ASSY
DATE	17TH DEC 93
SUPERCEDES	
DRAWN BY	
CHECKED BY	Jelle

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

NOTE: 5/16" PLATE WASHER : PLACED BETWEEN EAR BRKTS & PLATES.

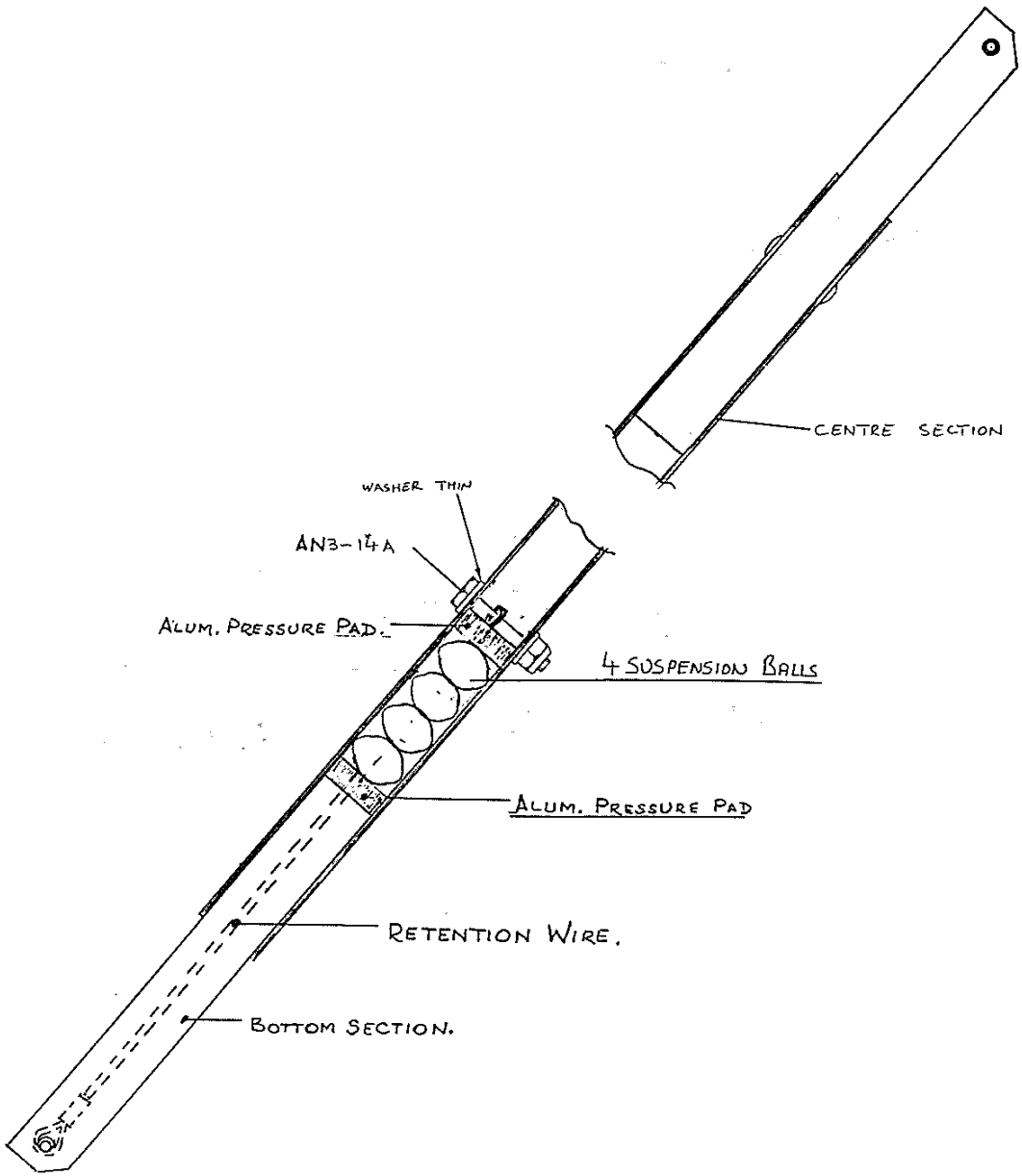


DWG NO.	MK-221
TITLE	KEEL/MONOPOLE ASST
DATE	17th DEC 93
SUPERCEDES	
DRAWN BY	pl
CHECKED BY	J Ellis

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



DWG NO. MK-222

TITLE SIDE STRUT ASSY

DATE 17TH DEC 93

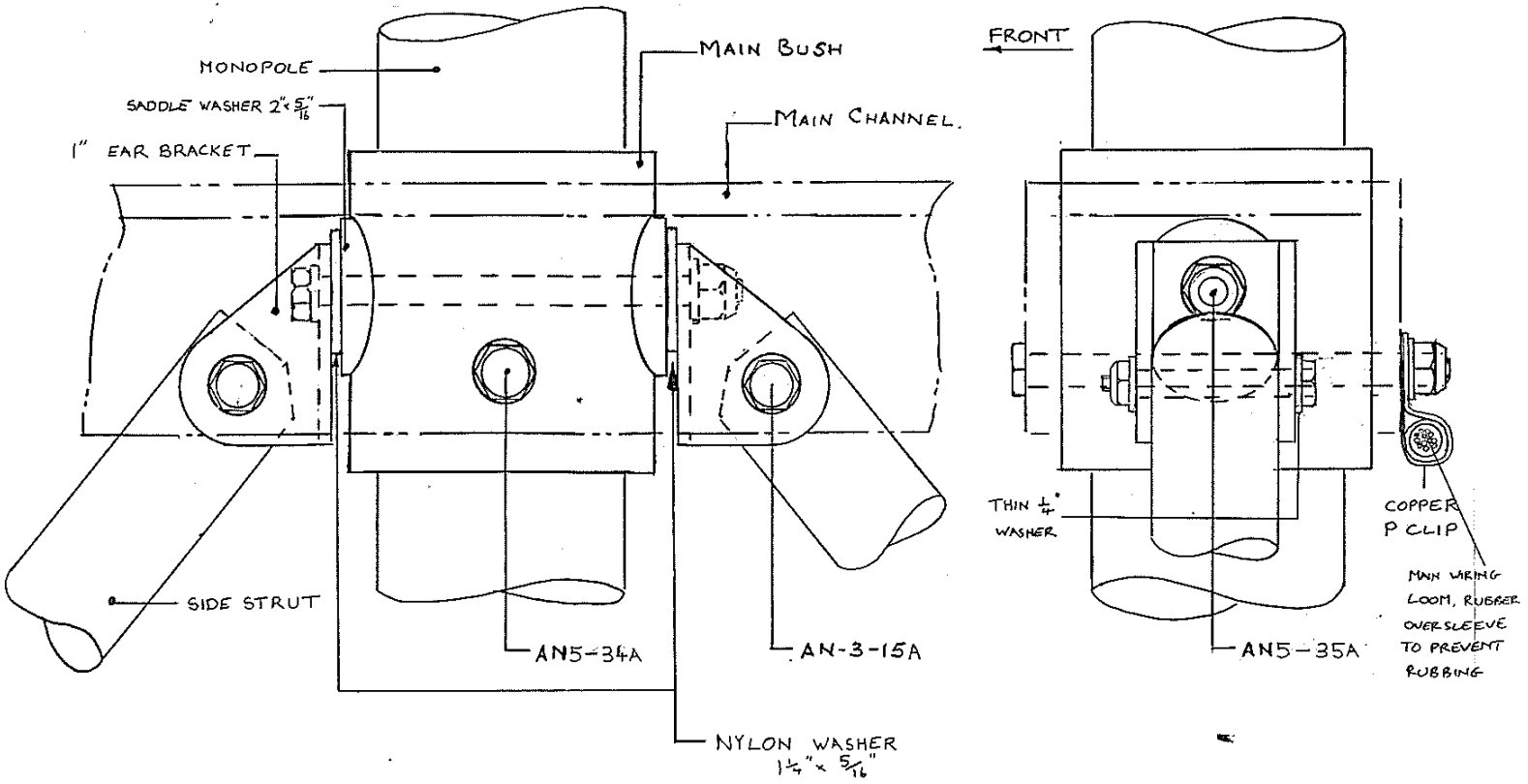
SUPERCEDES

DRAWN BY [signature] CHECKED BY [signature]

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

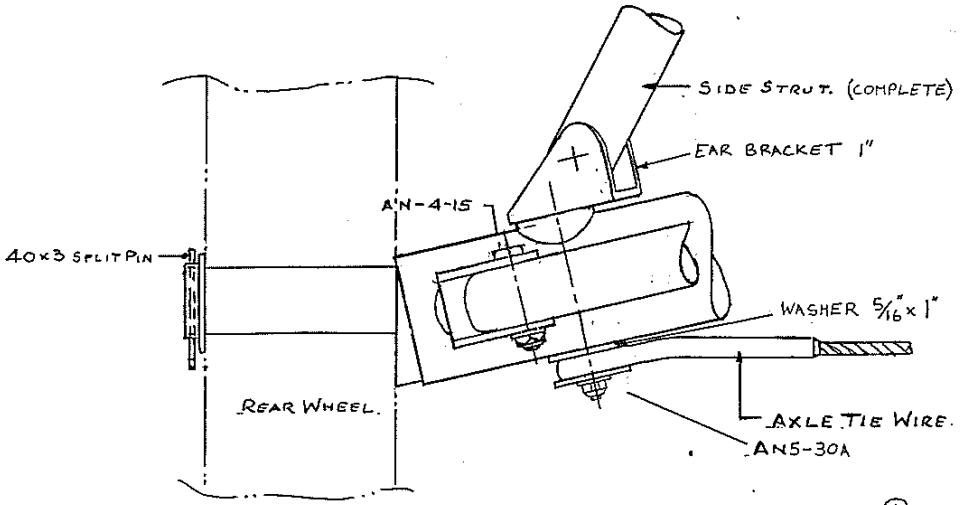


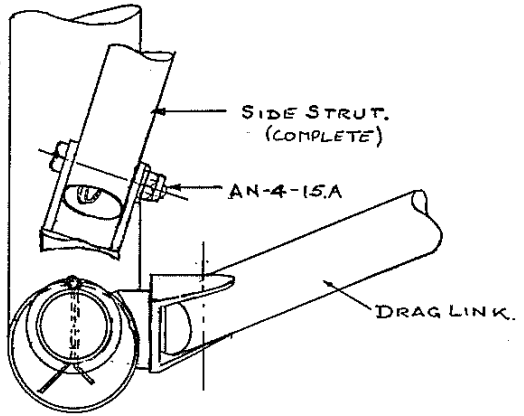
DWG NO.	MK-223
TITLE	MONOPOLE/SIDESTRUT
DATE	17TH DEC 93
SUPERCEDES	
DRAWN BY	bf
CHECKED BY	[illegible]

REF	DATE	AMENDMENT

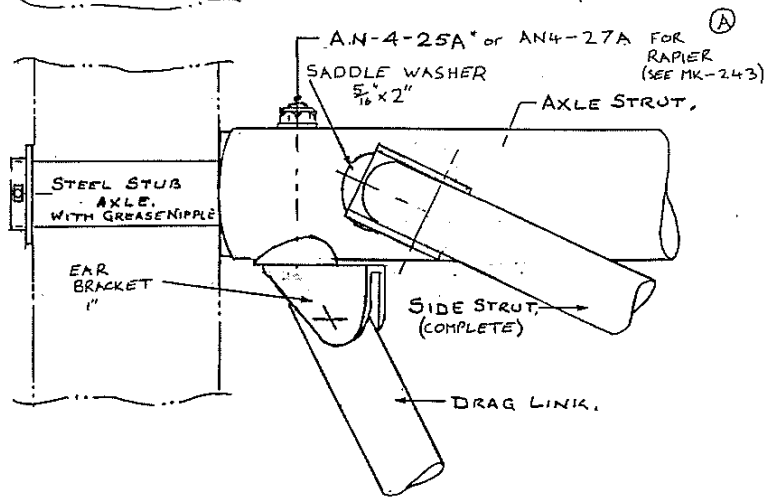
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM





SOME DETAILS OMITTED FOR CLARITY



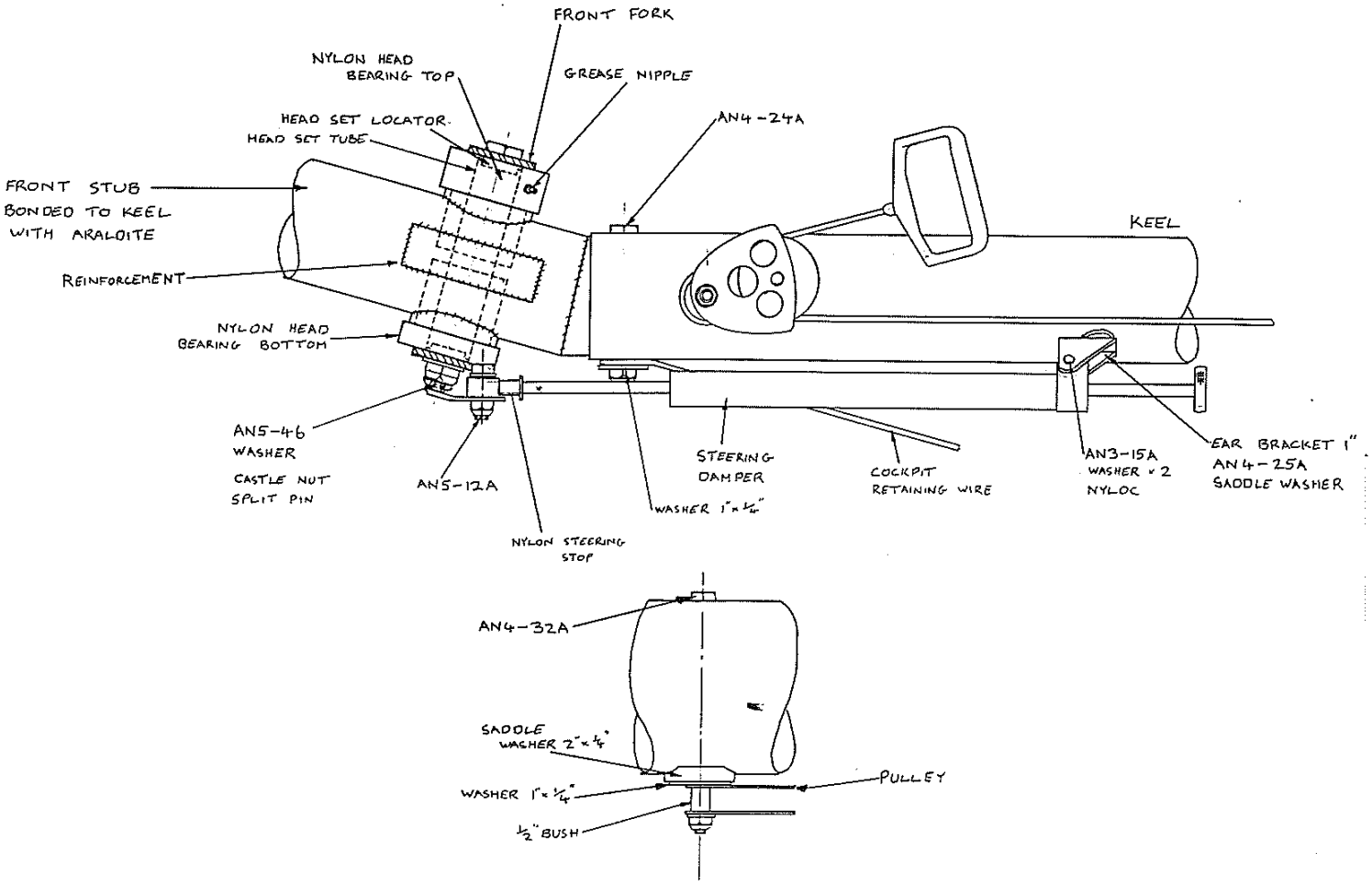
DWG NO.	MK-224
TITLE	AXLE ASSY
DATE	17th DEC 93
SUPERCEDES	
DRAWN BY	CHECKED BY

REF	DATE	AMENDMENT
A	6/10/95	DRAG LINK BOLT CHANGE FOR RAPIER - ALSO NOTE BELOW

FOR WHEEL AND AXLE DETAILS SEE
MK-242 FOR MERCURY
MK-243 FOR RAPIER

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

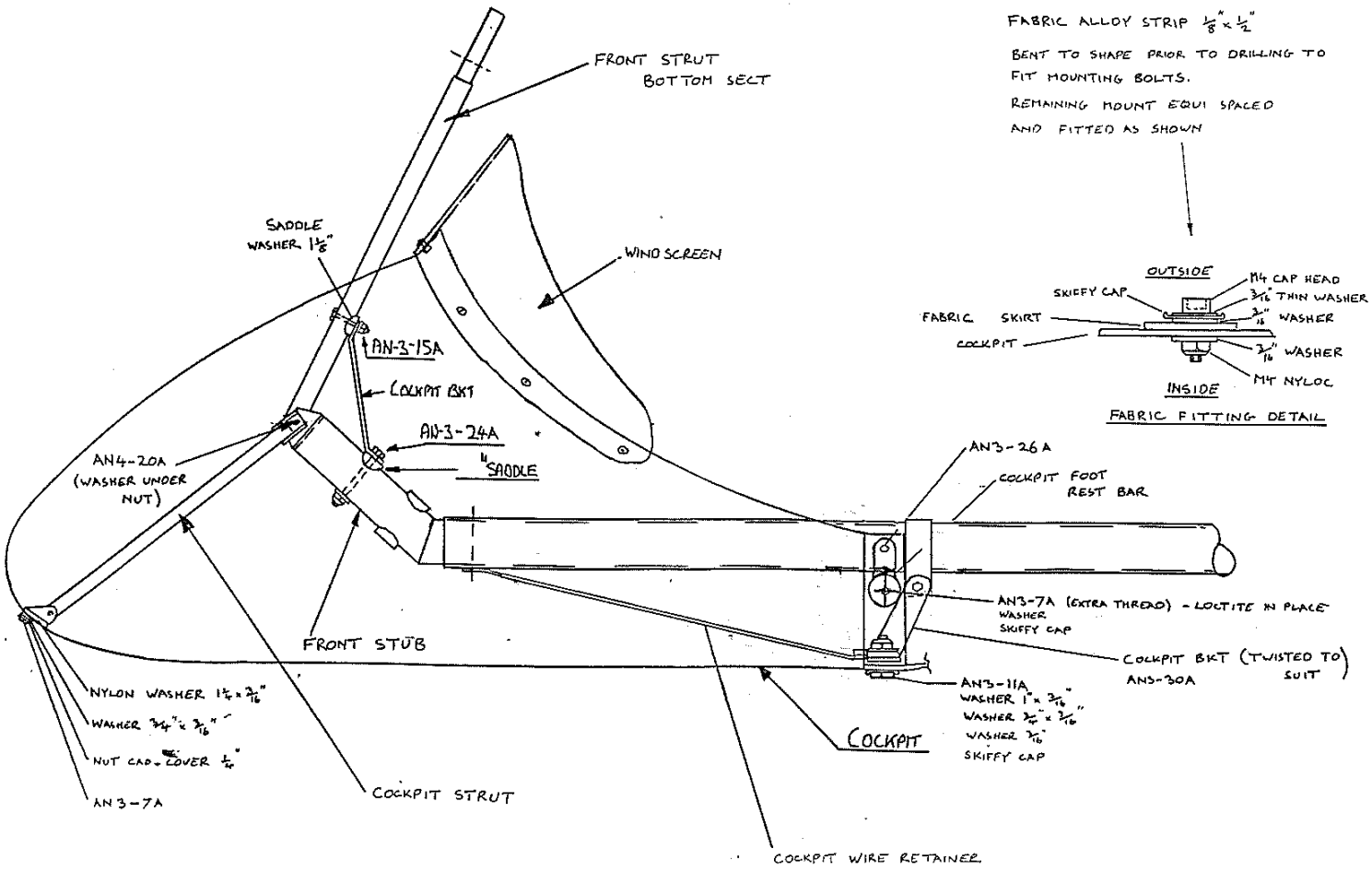


DWG NO.	MK-225
TITLE	FRONT STUB ASSY
DATE	14th DEC 94
SUPERCEDES	
DRAWN BY	CHECKED BY

REF	DATE	AMENDMENT
A	6/12/94	MUDGUARD REMOVED + BOLT ALTERED FOR NEW POD

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



FABRIC ALLOY STRIP ⅛" x ½"

BENT TO SHAPE PRIOR TO DRILLING TO FIT MOUNTING BOLTS.

REMAINING MOUNT EQUI SPACED AND FITTED AS SHOWN

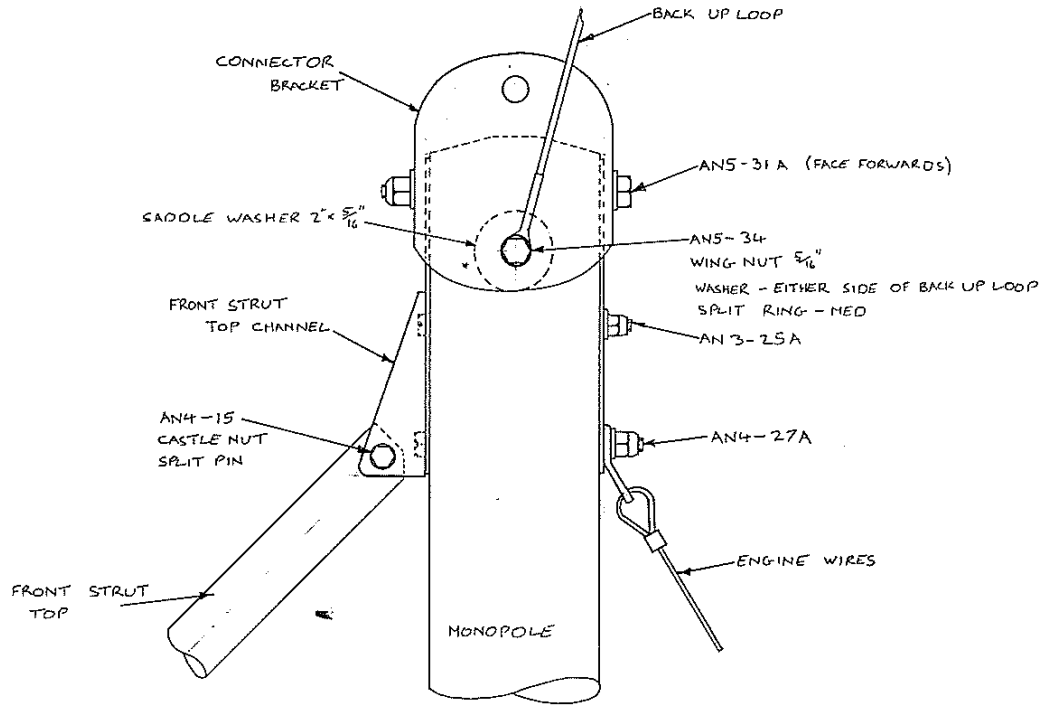
FABRIC FITTING DETAIL

DWG NO.	MK-226
TITLE	COCKPIT ASSY
DATE	14th DEC 93
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT
A	6/12/94	COCKPIT DETAILS ALTERED

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

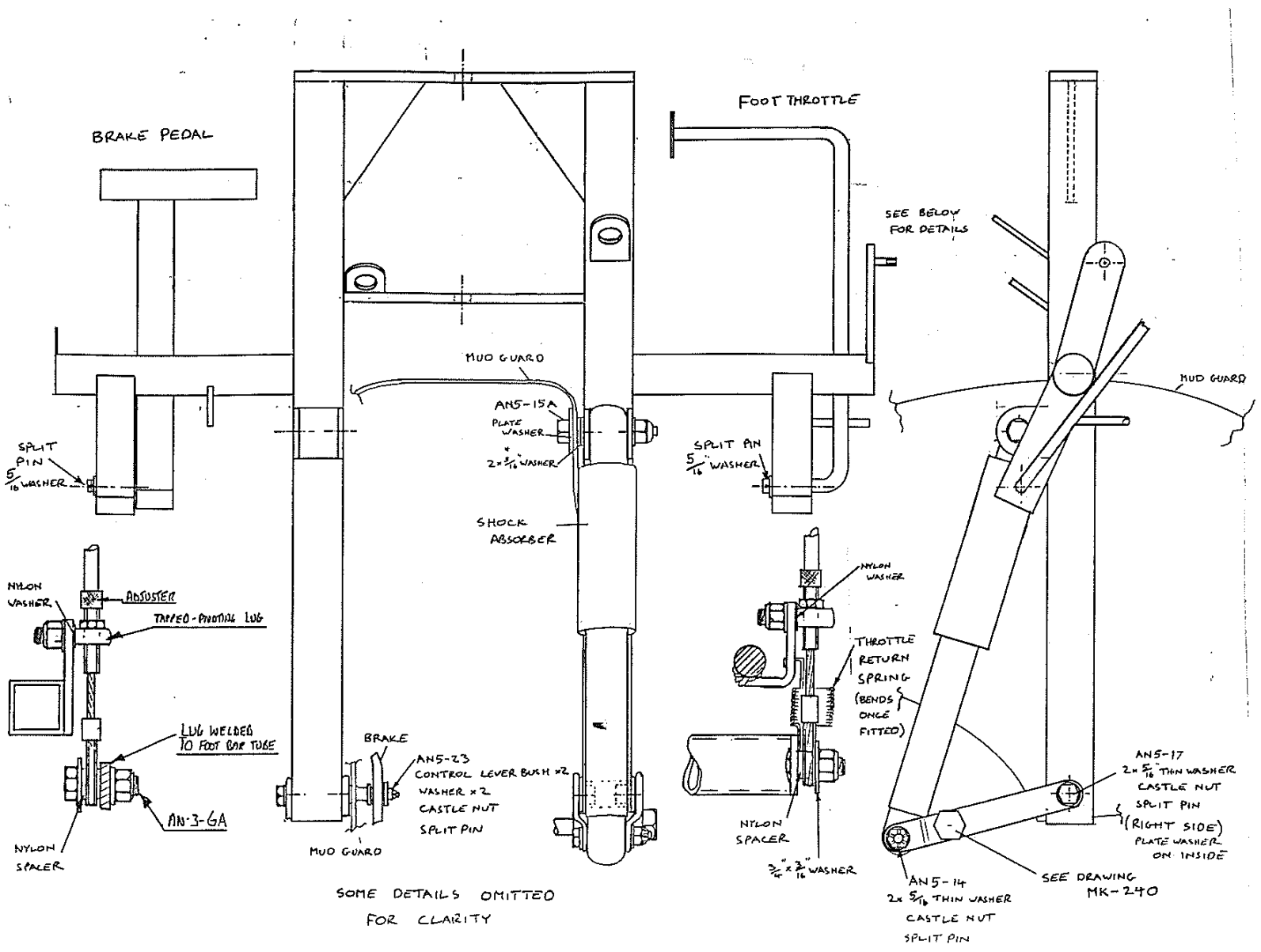


DWG NO.	MK-227
TITLE	MONOPOLE TOP ASSY
DATE	14TH DEC 93
SUPERCEDES	
DRAWN BY	BF
CHECKED BY	J. Emlle

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



DWG NO. MK-228

TITLE FORK ASSY

DATE 16th DEC 93

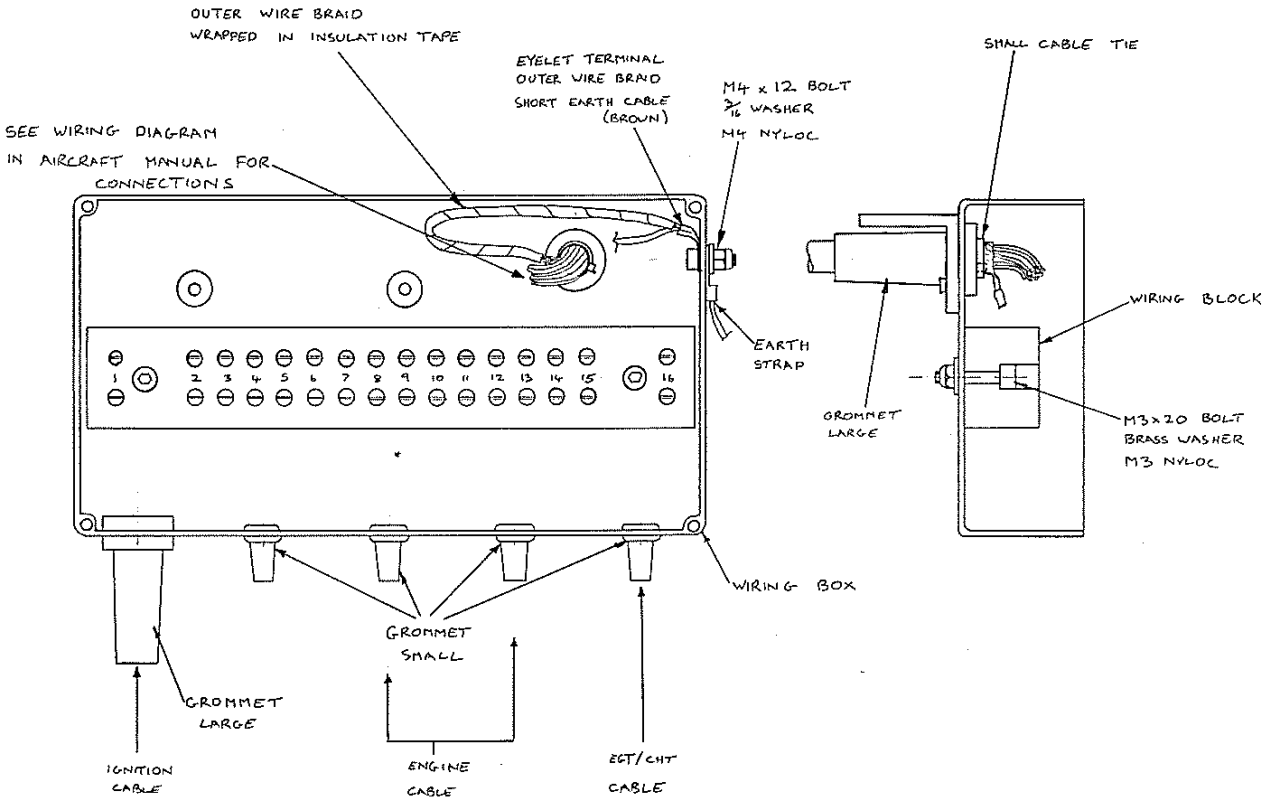
SUPERCEDES

DRAWN BY ff CHECKED BY JCeele

REF	DATE	AMENDMENT
A	6/12/94	NEW STYLE MUD GUARD FITTED ff

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



DWG NO. MK-234

TITLE WIRING BOX ASSY

DATE 6th JAN 94

SUPERCEDES

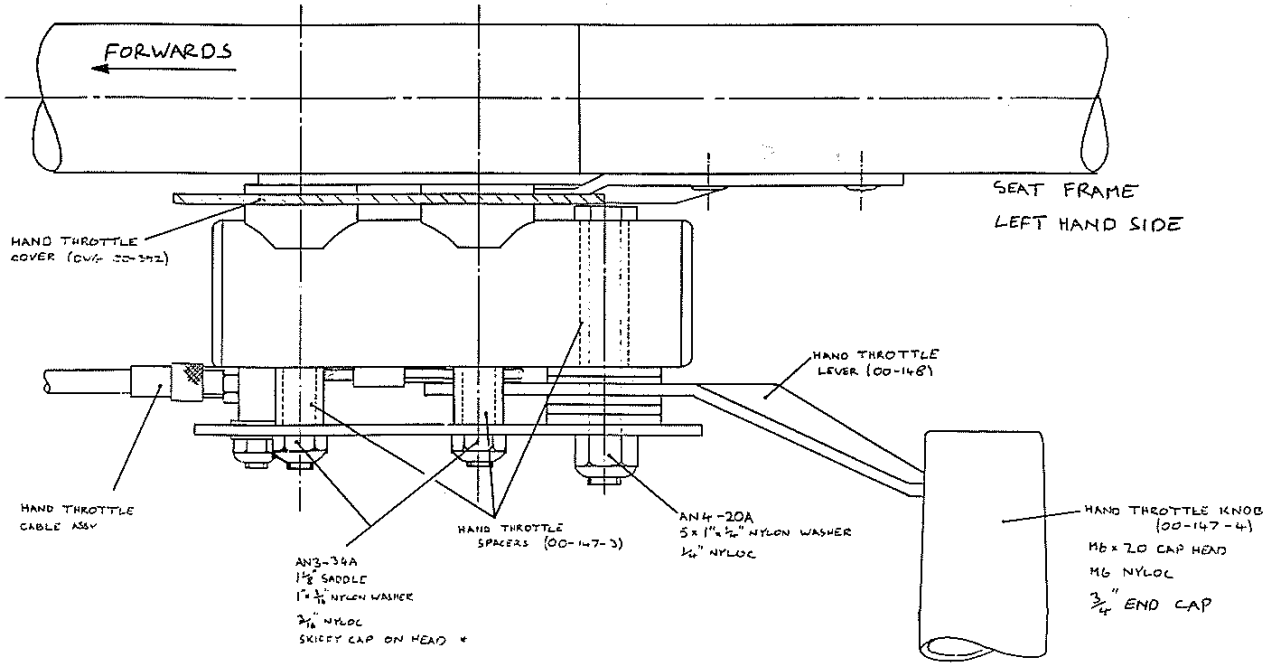
DRAWN BY

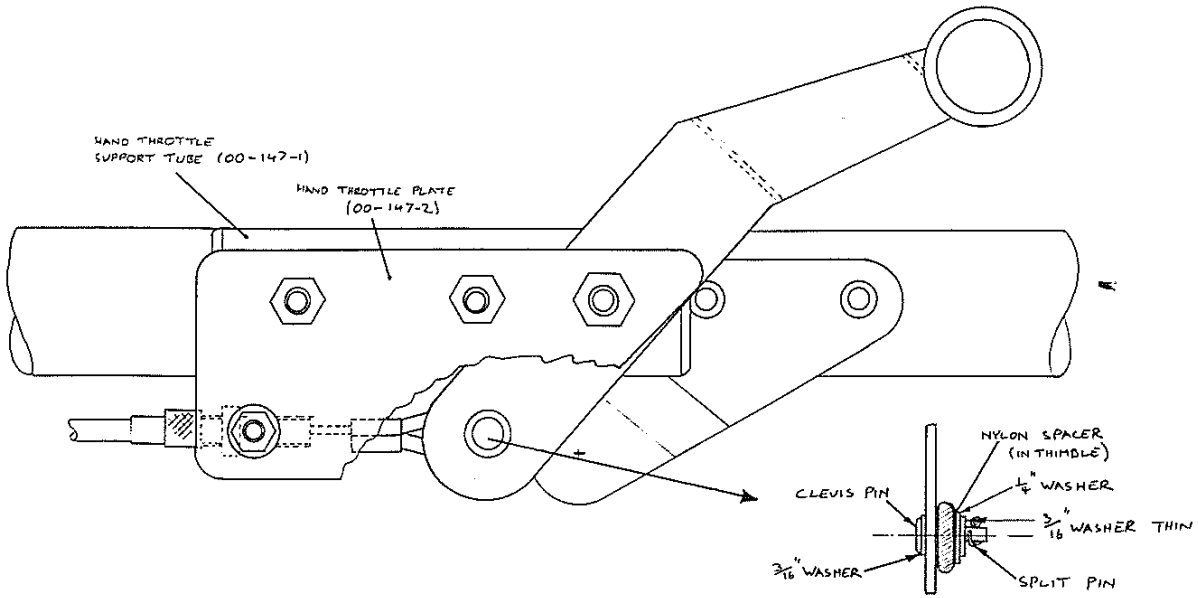
CHECKED BY J. Rille

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM





SOME DETAILS OMITTED FOR CLARITY

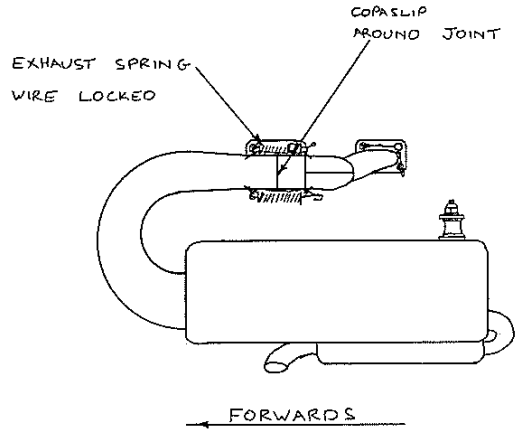
THROTTLE CABLE ATTACHMENT

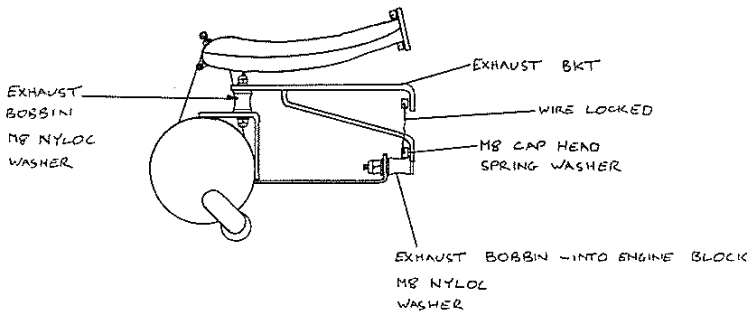
DWG NO.	MK-235
TITLE	HAND THROTTLE ASSY
DATE	10TH DEC 93
SUPERCEDES	
DRAWN BY	
CHECKED BY	J. Russell

REF	DATE	AMENDMENT

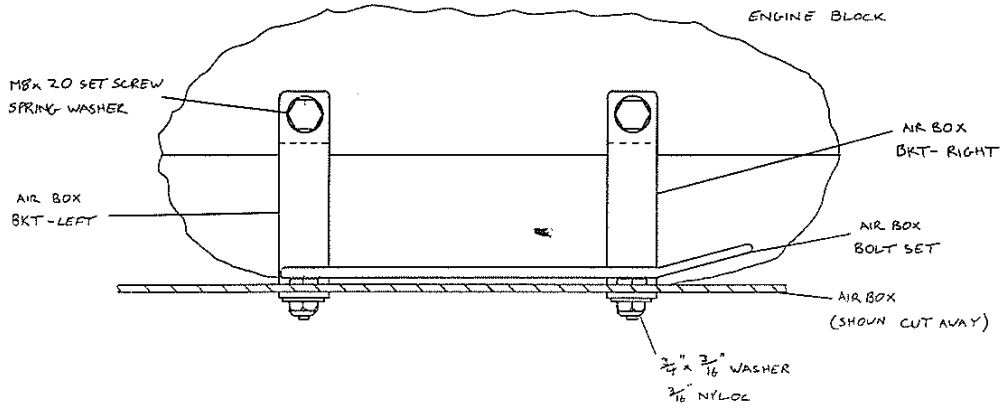
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM





AIR INTAKE SILENCER MOUNTING



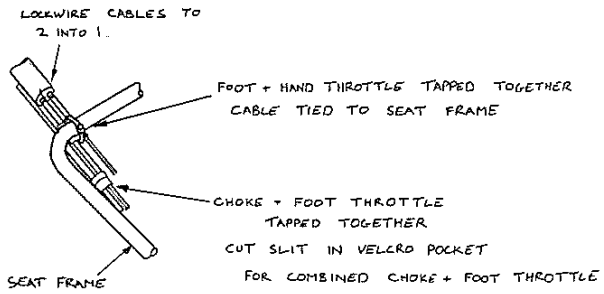
DWG NO.	MK-236
TITLE	EXHAUST DETAILS
DATE	10th JAN 94
SUPERCEDES	
DRAWN BY	BF
CHECKED BY	J. Pickle

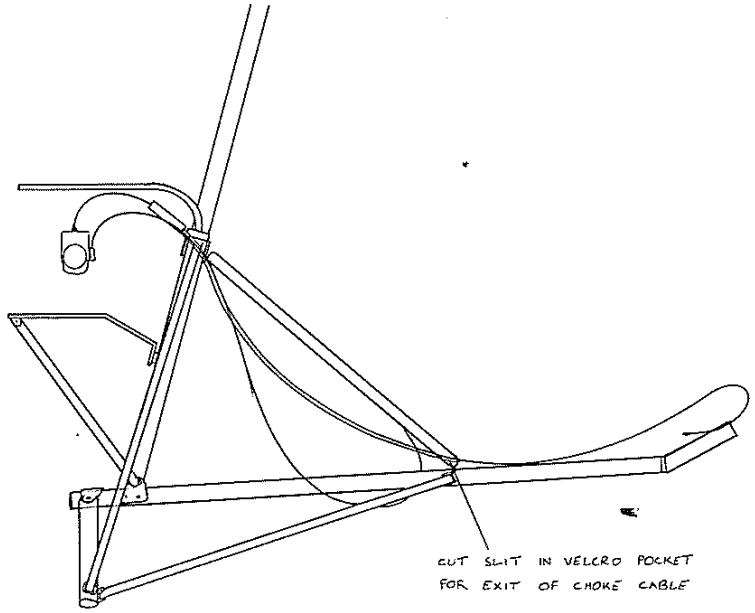
REF	DATE	AMENDMENT
1	3rd AUG 94	AIR INTAKE DETAIL ADDED BF

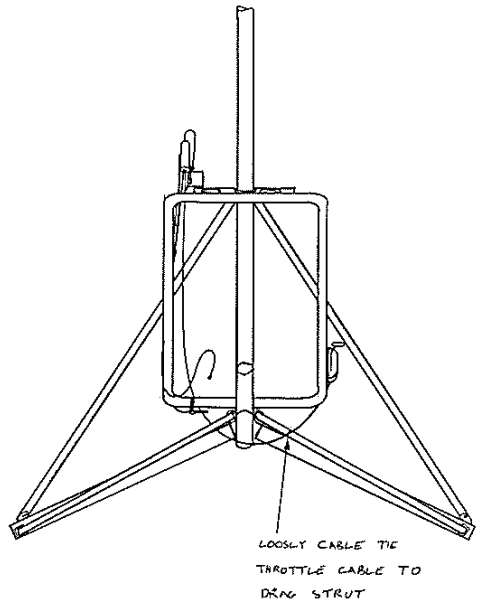
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM.

DO NOT SCALE







DWG NO. MK-237

TITLE THROTTLE AND CHOKE CABLE ROUTE

DATE 12th JAN 94

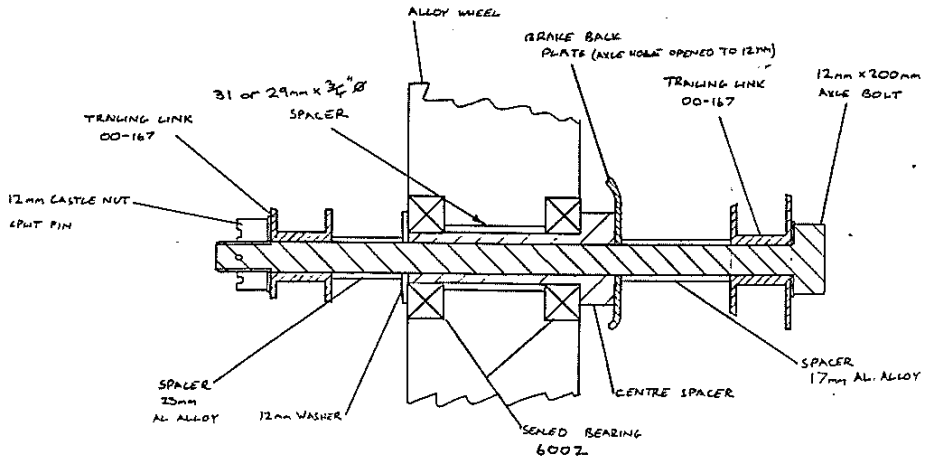
SUPERCEDES

DRAWN BY [signature] CHECKED BY J.C. Lee

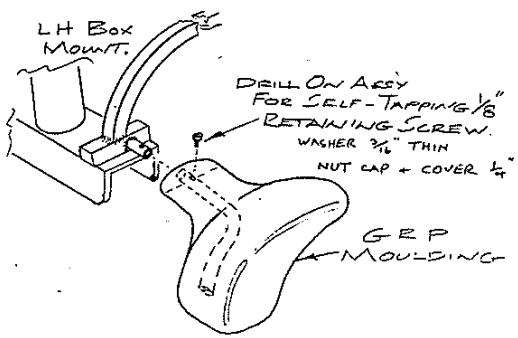
REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

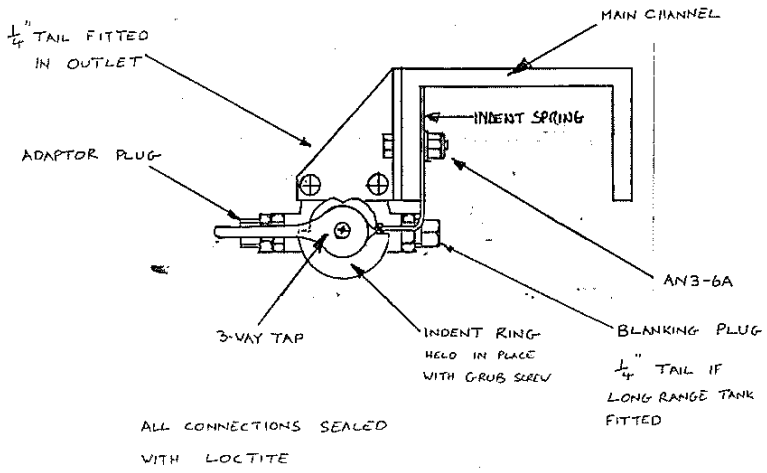
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



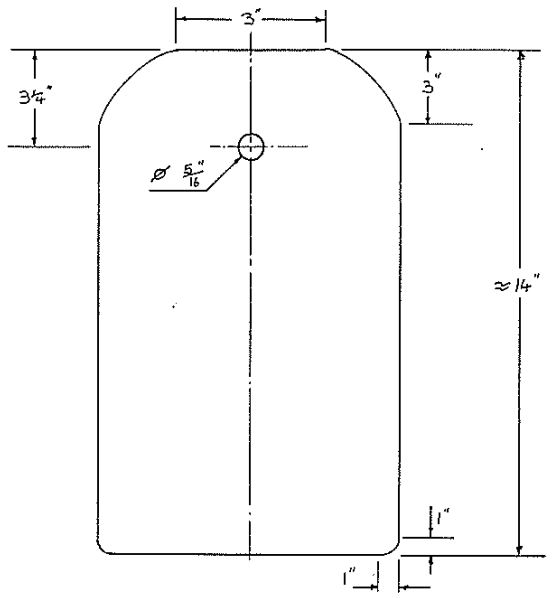
FRONT AXLE



EXHAUST GUARD



FUEL TAP



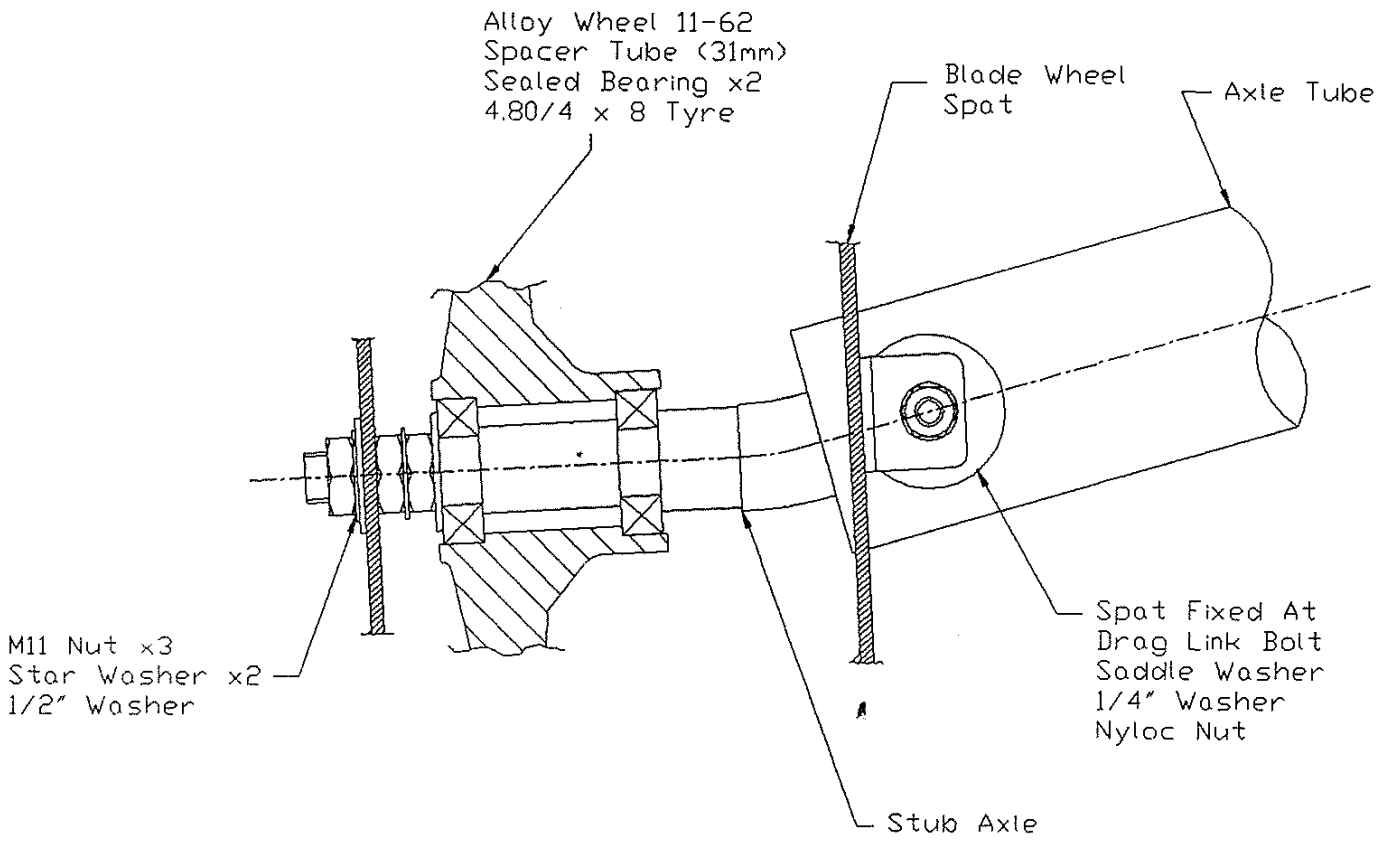
MUDGUARD DETAILS

DWG NO.	MK-240
TITLE	
DATE	10TH DEC 93
SUPERCEDES	
DRAWN BY	
CHECKED BY	J.C.

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



Axle Assembly Viewed From Rear

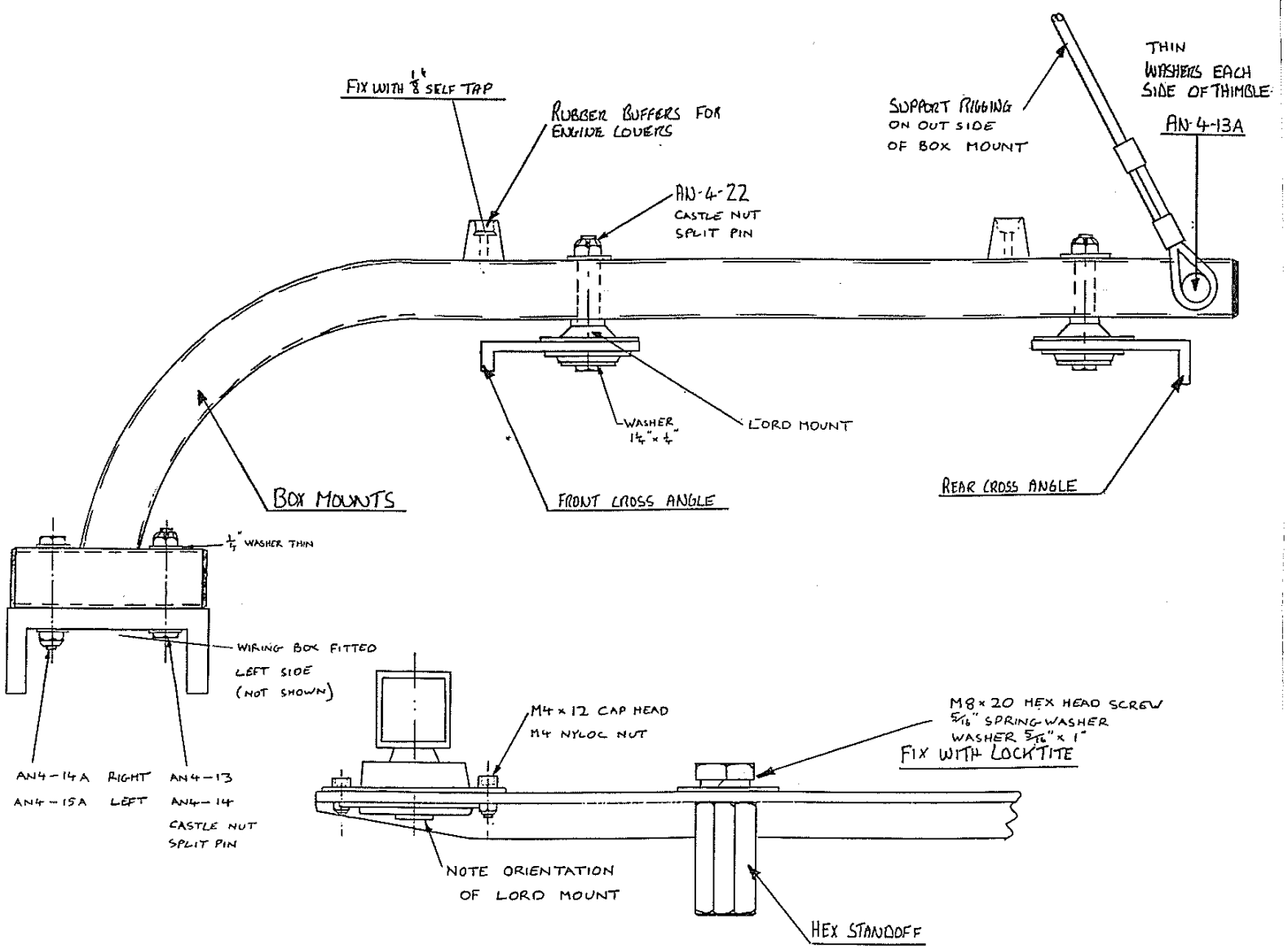
Some Details Omitted For Clarity

DWG NO.	MK-243
TITLE	Rapier Spat Assembly
DATE	6th, Nov 96
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD.
TEL: 01706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1.0MM DIAMETERS ± 0.05MM
CENTRES ± 0.5MM

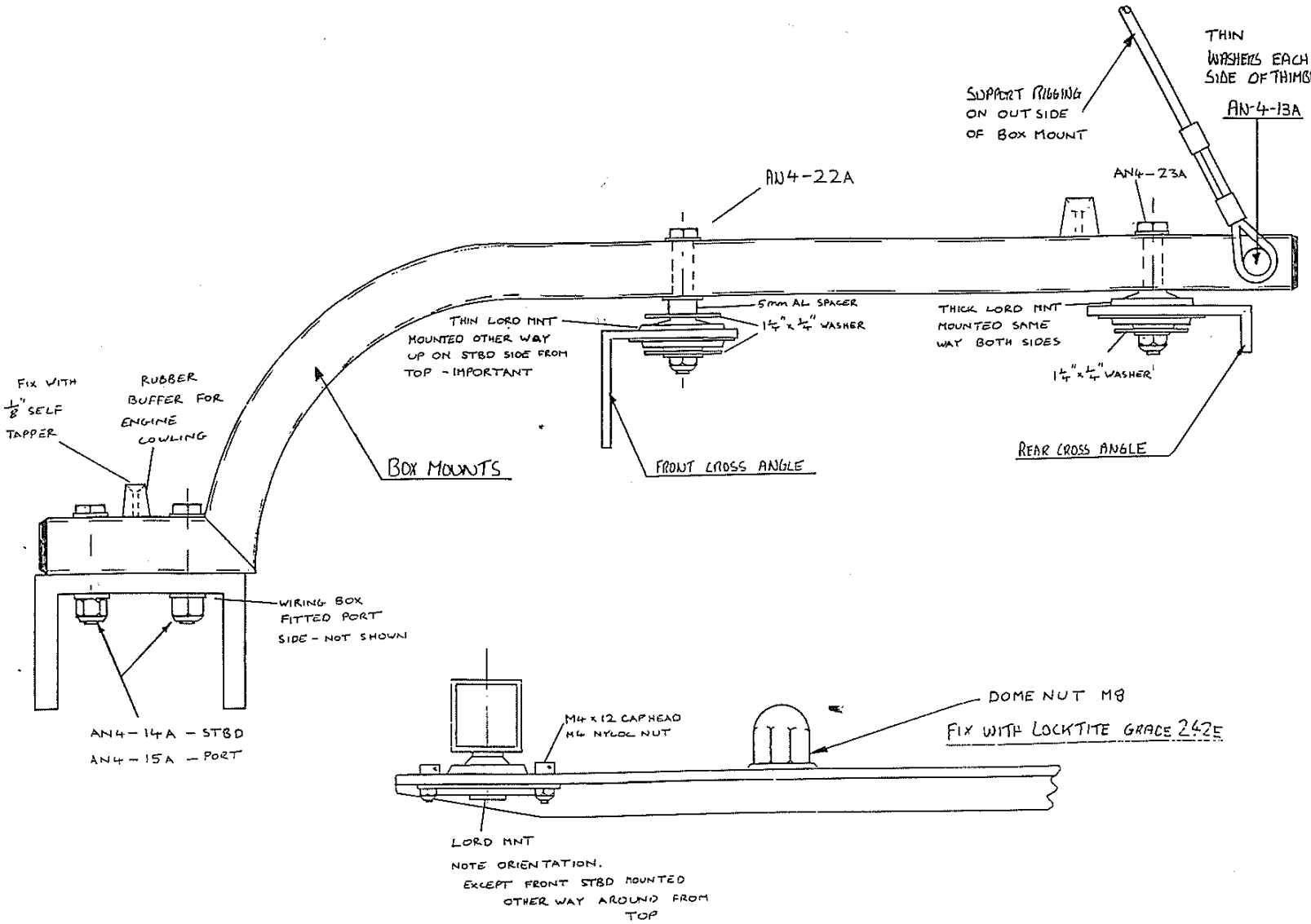


DWG NO.	BK-230
TITLE	ROTAX 503 ENGINE BOX MNTS
DATE	12th JAN 1995
SUPERCEDES	
DRAWN BY	
CHECKED BY	J Cubbe

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

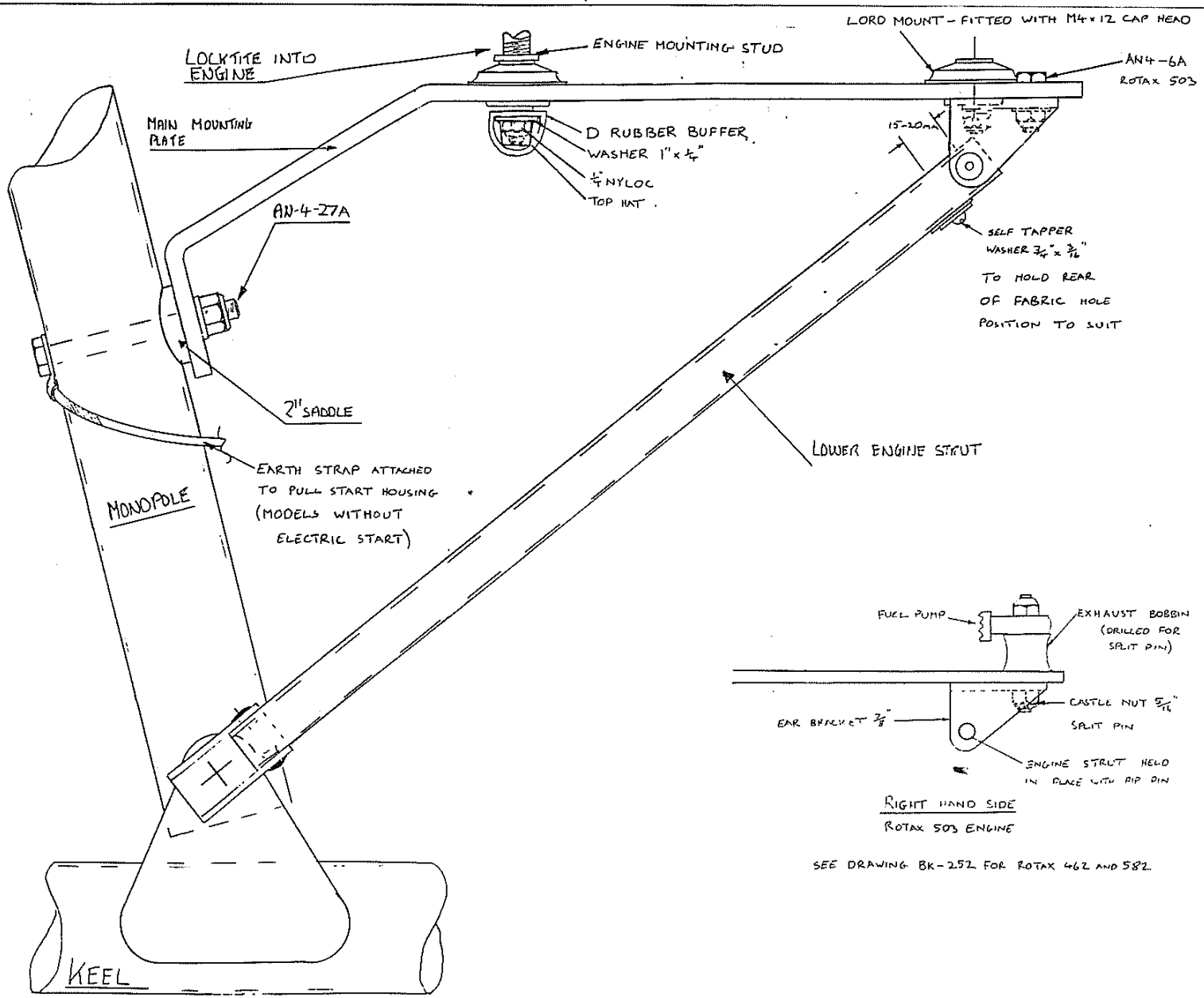


DWG NO.	BK-231
TITLE	ROTAX 462 ENGINE BOX MOUNTS
DATE	12th JAN 1995
SUPERCEDES	
DRAWN BY	CHECKED BY J. Cuthbert

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



RIGHT HAND SIDE
ROTAX 503 ENGINE

SEE DRAWING BK-252 FOR ROTAX 462 AND 582

DWG NO. BK-233

TITLE ENGINE TABLE ASSY

DATE 13th JAN 1995

SUPERCEDES

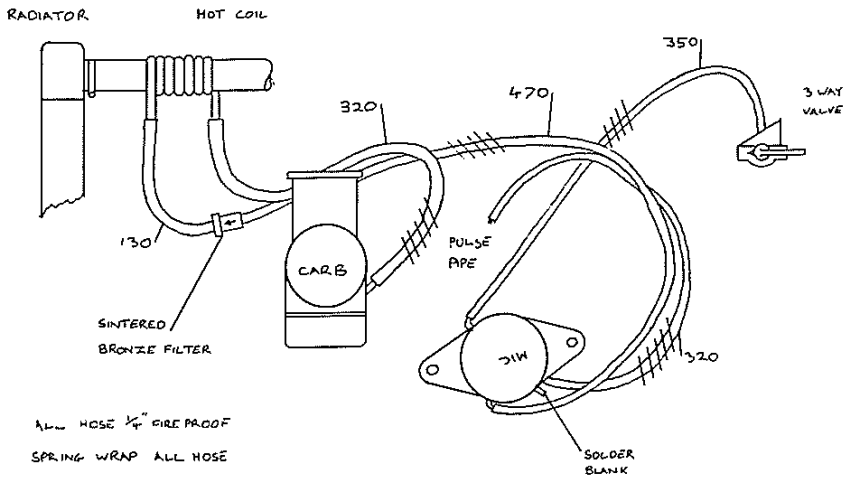
DRAWN BY RF CHECKED BY JC Wilkie

REF	DATE	AMENDMENT
A	8-3-96	NOTE ADDED ABOUT EARTH STRAP RF

MAINAIR SPORTS LTD
TEL: 0706 55134

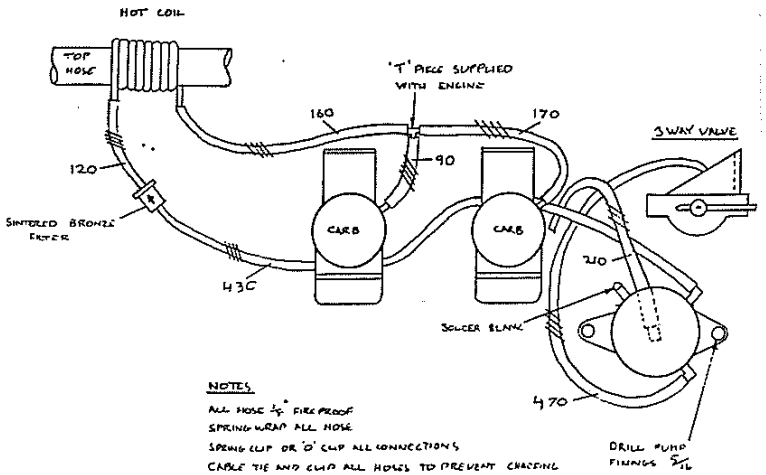
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

462 ENGINE LAYOUT



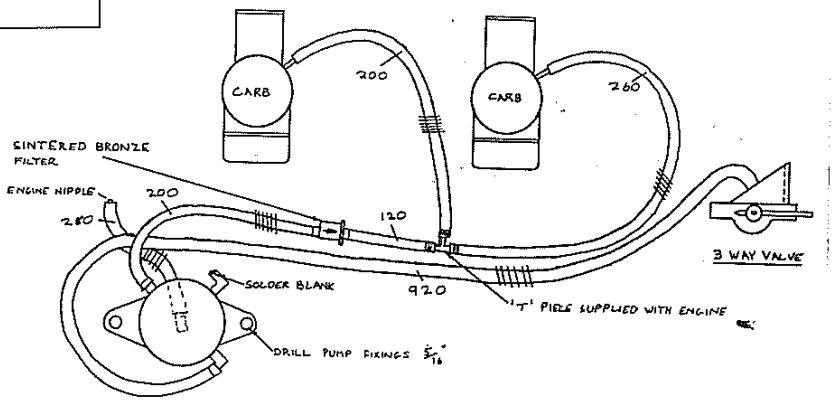
ALL HOSE ¼" FIRE PROOF
SPRING WRAP ALL HOSE
SPRING CLIP OR 'O' CLIP ALL CONNECTIONS
CABLE TIE AND CLIP HOSES TO PREVENT CHAFFING

582 ENGINE LAYOUT

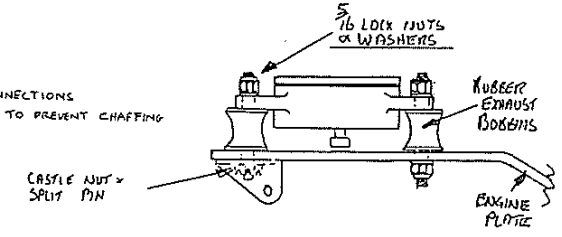


NOTES
ALL HOSE ¼" FIRE PROOF
SPRING WRAP ALL HOSE
SPRING CLIP OR 'O' CLIP ALL CONNECTIONS
CABLE TIE AND CLIP ALL HOSES TO PREVENT CHAFFING

503 - 2V ENGINE LAYOUT



NOTES
ALL HOSE ¼" FIREPROOF
SPRING WRAP ALL HOSE
SPRING CLIP OR 'O' CLIP ALL CONNECTIONS
CABLE TIE AND CLIP ALL HOSES TO PREVENT CHAFFING



DWG NO.	BK-239
TITLE	FUEL SYSTEMS
DATE	13th JAN 1995
SUPERCEDES	
DRAWN BY	CHECKED BY

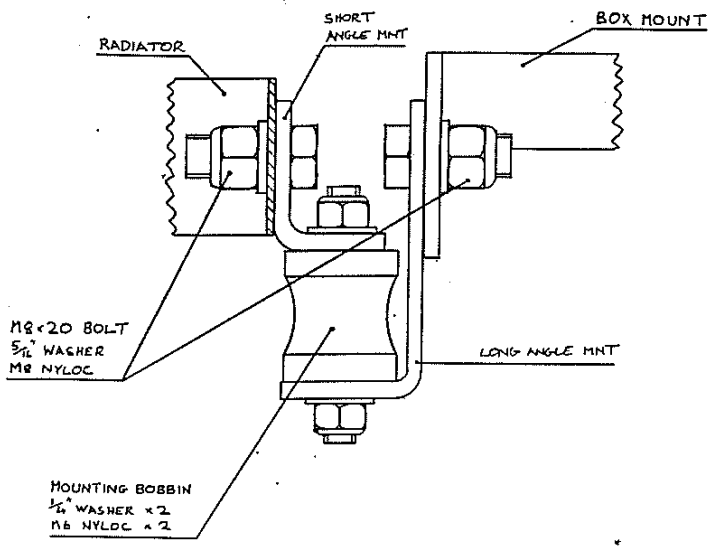
REF	DATE	AMENDMENT
A	15th APR 97	NOTE ADDED ABOUT FUEL PIPE LAYOUT FOR ROTAX 503-2V

(A) SEE BK-242 FOR FUEL PIPE LAYOUT FOR ROTAX 503-2V

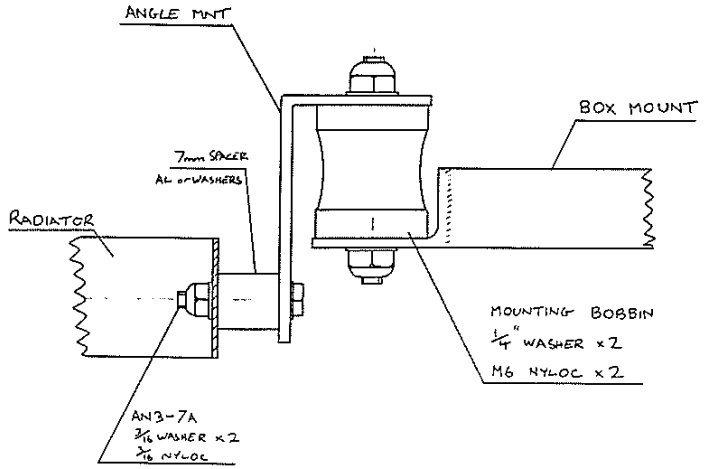
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

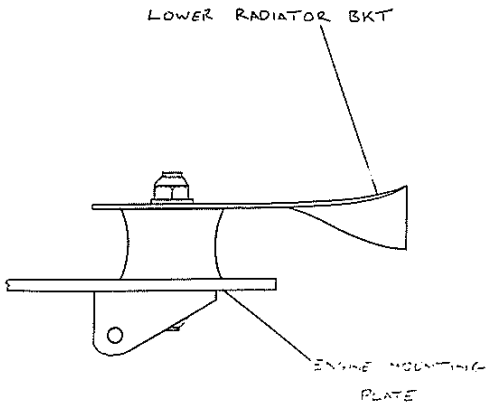
ROTAX 462 TOP RADIATOR MOUNT

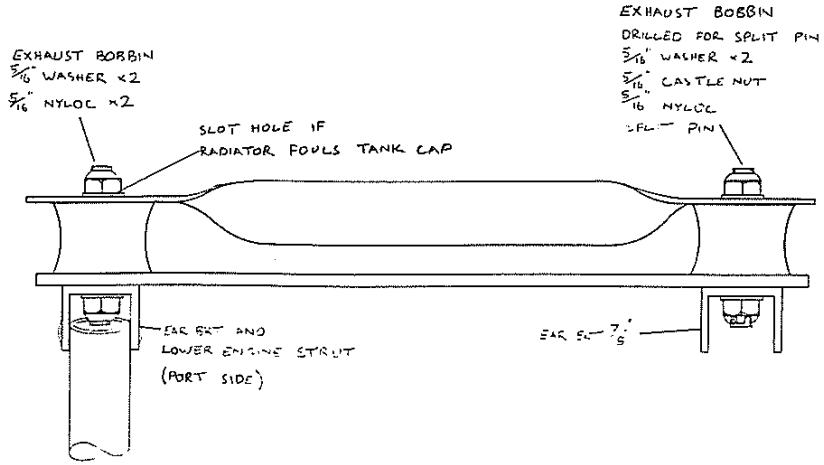


ROTAX 582 TOP RADIATOR MOUNT



LOWER RADIATOR MNT





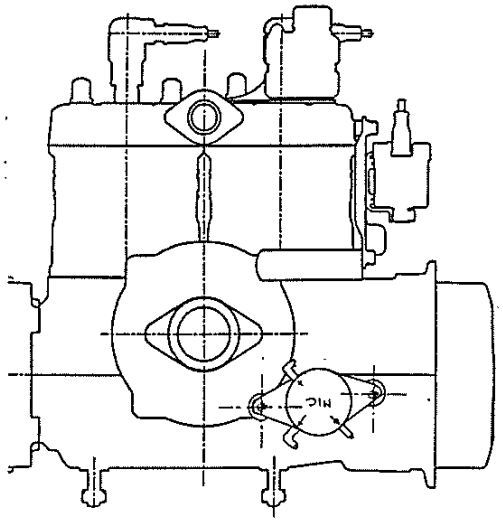
DWG NO.	BK-252
TITLE	RADIATOR MOUNT 462+582 ROTAX
DATE	13th JAN 1995
SUPERCEDES	
DRAWN BY	CHECKED BY

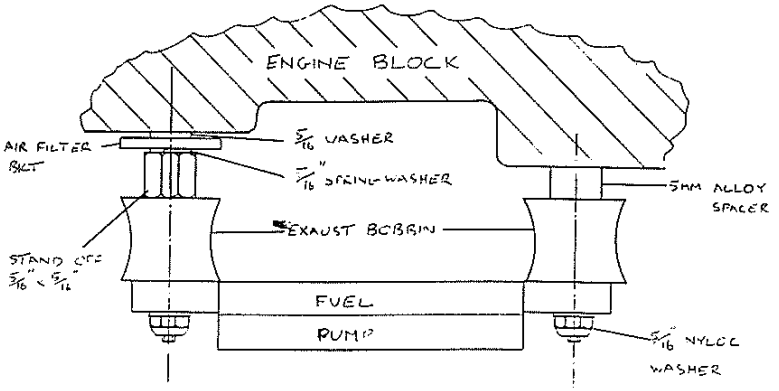
REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

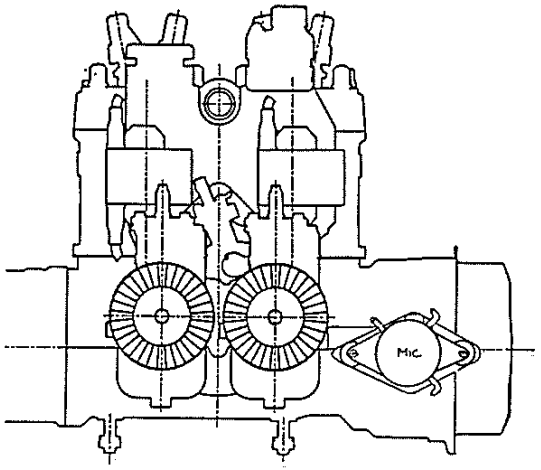
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

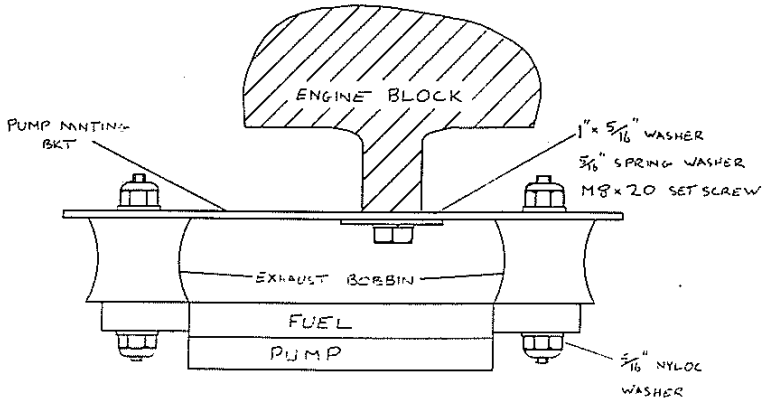
ROTAX 462





ROTAX 582-2V





DWG NO. BK-253

TITLE ROTAX 462 and 582 PUMP MOUNTING

DATE 13th JAN 1995

SUPERCEDES

DRAWN BY [signature] CHECKED BY [signature]

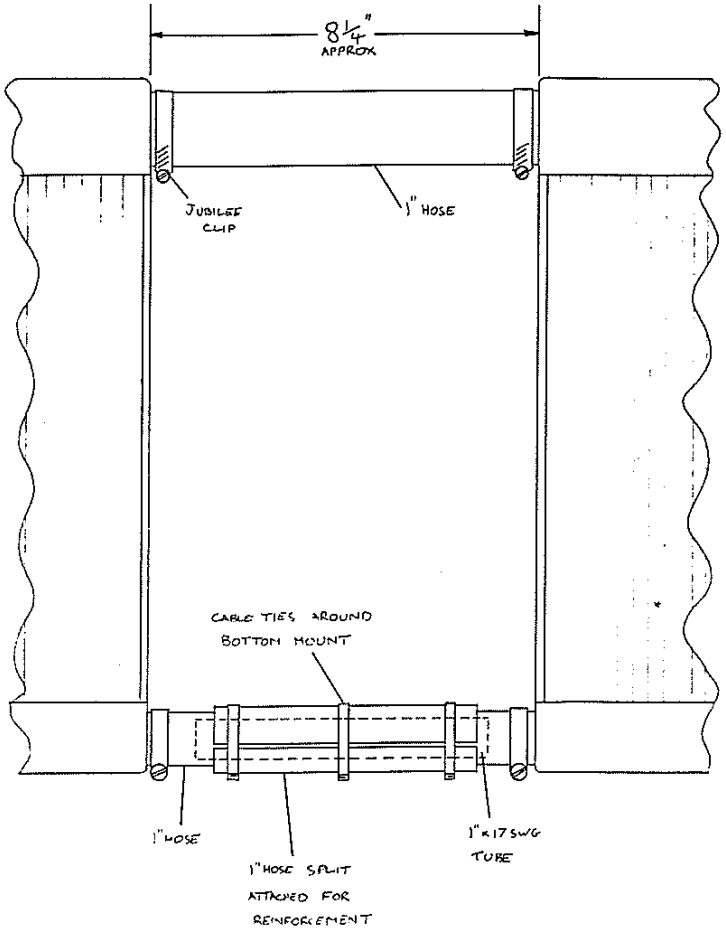
REF	DATE	AMENDMENT

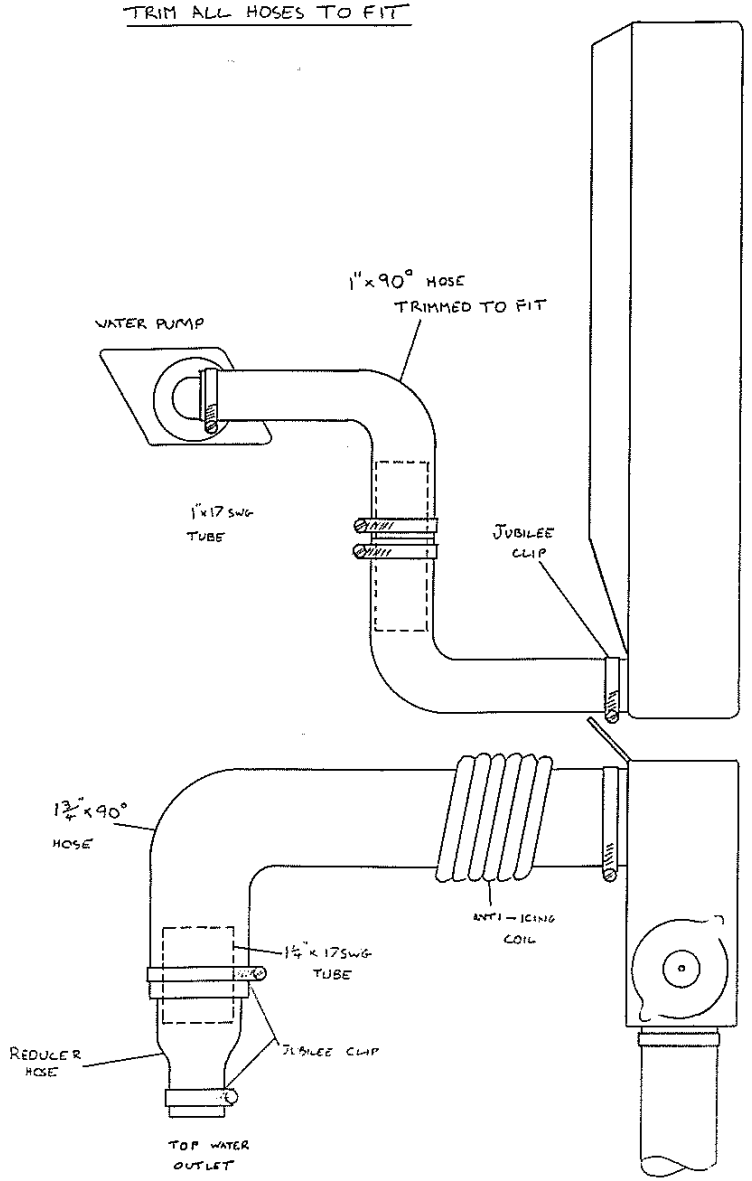
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

DO NOT SCALE

TRIM ALL HOSES TO FIT





DWG NO.	BK-255
TITLE	RADIATOR HOSE ASSY
DATE	13TH JAN 1995
SUPERCEDES	
DRAWN BY	
CHECKED BY	J. Cribb

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM