



Trigear Finger Brake system Mod65

APPLICABILITY : **Europa XS Trigear (may be adapted for Classic)**

Mod Type : New build or Retro-fit

1. Introduction:

This modification introduces hand or “finger” operated main wheel brakes to the Trigear aircraft in place of the foot operated brakes supplied with the kits prior to 2008. An earlier version (issue 1) used a dual master cylinder manufactured by Jamar.

The system uses twin Matco master cylinders which are positioned on the right hand side of the central tunnel. A portion of the tunnel is cut away to enable a pre-manufactured fibreglass platform to be mounted; a cover is then fitted which replaces the section of tunnel removed. The system includes a hydraulic parking brake.

The brake components can be used on a Classic Trigear but the builder would need to manufacture their own mounting in the centre tunnel. See LAA Mod 11964 for a suitable design.

2. Parts List:

Qty	Part No.	Description	Source
		Mount & Cover	
1	F28	Finger brake moulding	Mod 65 Kit
1	F29	Cover plate	Mod 65 Kit
8	MS21051-3	Anchor nuts single leg (for cover)	Mod 65 Kit
16	TAPK33BS	Rivets (for nuts above)	Mod 65 Kit
8	AN525-10R8	Washer head screw	Mod 65 Kit
16	EURO63	Washers for rivets	
		Cylinders and mounts	
2	MCMC-4D	Master cylinders	Mod 65 Kit
1	B15	Front mount	Mod 65 Kit
1	B16	Rear mount	Mod 65 Kit
1	B17	Pivot spacer	Mod 65 Kit
2	B18	Spacer (leaver arms pivots)	Mod 65 Kit
1	B19	Forward mount spacer	Mod 65 Kit
2	B20	Spacer (leaver arms to cylinders)	Mod 65 Kit
1	B21	Rear mount spacer	Mod 65 Kit
4	FL11	Nylon washer	Mod 65 Kit
2	FL14	Spacer (leaver arms to cylinders)	Mod 65 Kit
2	EURO01	washers	Mod 65 Kit
2	SP4Y-B7	Clevis pins	Mod 65 Kit
2	MS24665-153	Split pins	Mod 65 Kit
1	AN3-23A	Bolt (front mount)	Mod 65 Kit
1	AN3-27A	Bolt (rear mount)	Mod 65 Kit
2	MS21042-3	Nuts for above	Mod 65 Kit
5	AN960-10	Washer	Mod 65 Kit
5	AN960-10L	Washer	Mod 65 Kit
5	AN3-5A	Mounts to platform	Mod 65 Kit
5	MS21047-3	Anchor nuts	Mod 65 Kit
10	TLPK435BS	Rivets for above	Mod 65 Kit
4	269P-04x02	Brake pipe elbow fitting	Mod 65 Kit
1	264P-04	Brake pipe “T” fitting	Mod 65 Kit
1	A600	Hydraulic reservoir	Mod 65 Kit
1	268-04x02	Straight union	Mod 65 Kit
2	AN3-4A	Bolts (for above)	Mod 65 Kit
4	AN970-3	Washers	Mod 65 Kit



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		Levers etc	
1	B06	brake lever (Stbd)	Mod 65 Kit
1	B07	brake lever (Port)	Mod 65 Kit
2	B08	Outer knob	Mod 65 Kit
2	B09	Inner knob	Mod 65 Kit
1	B13	Slotted plate for brake levers	Mod 65 Kit
4	TAPD46BS	Rivets for above	Mod 65 Kit
4	EURO11	Washers for rivets above	Mod 65 Kit
1	PL03B	Label "Brakes pull on"	Mod 65 Kit
		Parking Brake and mount	
1	PVPV-D	Matco parking brake valve	Mod 65 Kit
1	B11	Parking brake knob	Mod 65 Kit
2	B22	Parking brake brackets	Mod 65 Kit
1	B23	Parking brake lever	Mod 65 Kit
1	B24	Cover plate for parking brake	Mod 65 Kit
4	268-04x02	Straight union	Mod 65 Kit
3	OR9	Spacer	
1	PL03A	Label "Parking Brake"	Mod 65 Kit
2	AN525-10R10	Washer headed bolt	Mod 65 Kit
6	AN525-10R8	Washer headed bolt	Mod 65 Kit
3	MS21047-3	Anchor nuts	Mod 65 Kit
6	TAPK36BS	Rivets for above	Mod 65 Kit
6	MS21042-3	Stiff nuts	Mod 65 Kit
2	AN3-12A	Bolts park brake to mount	Mod 65 Kit
2	Rubber washers	Parking brake mount	Mod 65 Kit

List of related Drawings / Photo's:

Drawing No.	Title / Description	Issue
CBM 33T (Matco)	Combined Build manual Chapter 33T (Matco)	9

3 Action:

3.1 Removal of redundant Parts

If you have not fitted the foot brake system, go to step 2.

Drain the hydraulic fluid from the existing brake system by unscrewing the bleed nipple on each main wheel brake and pumping the brake pedal to eject the fluid into a suitable container. You'll retain some of the lines. Disconnect the hydraulic lines from the master cylinders and draw them back to within the centre tunnel; they will be repositioned later. Remove and discard the master cylinders and their associated operating levers, the mounting brackets B01P and B01S, and the top plate B05.

3.2 Installation Procedure:

The installation procedure is set out in the Combined Build manual chapter 33 (CBM 33T Matco). Ensure you have Issue 9 (Oct 2012).

Follow and complete the steps 1 to 15.

Pay particular attention to Step 15 System Check. It is essential to ensure correct operation prior to any taxi testing.



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3.3 – Completed installation



Fig 1 Platform / Master Cylinder assembly

In the example above the fittings on the inlet port point aft as the aircraft has the throttle spine removed.

4. Weight and Balance Effects:

4.1 If fitted to an existing aircraft, the aircraft should be weighed and a new weight and balance calculation prepared. The weight change is zero but the position has changed from 23 to 47 inches aft of datum:-

Weight Change	Moment arm	Moment Change
+ 0.5 lb	170.0 in	85.0 lb in

5. – Taxing Trials

5.1 Before conducting Taxiing trials, please refer to the owners manual Chapter 9-3. Ensure you have a copy of Issue 6.