



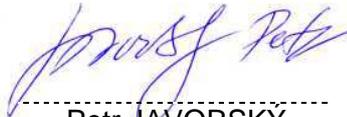
*Issues*

**INFORMATIVE BULLETIN No. SPORTSTAR – 012 b**

1. **CONCERNING TO:** SportStar airplanes fitted with standard wheels and brake system from the airplane manufacturer.
2. **REASON:** Demand of users, especially from the USA, to offer an alternative US brake system and wheels for the SportStar, thus improve availability of the spare parts.
3. **REQUIRED ACTION:** Demount current wheels and brake system and replace it by MATCO wheels and brakes .
4. **LATEST DATE OF THE ACTIONS:** as required.
5. **ACTION CARRIED OUT BY:** Aircraft mechanic with appropriate rating (for light sport aircraft)
6. **COSTS COVERED BY:** Airplane owner
7. **NECESSARY MATERIAL:** **BRAKE SYSTEM - SL - MATCO** **Drawing No. S5 00-60 01**  
see Enclosure
8. **WORK PROCEDURE:** see Enclosure
9. **ENCLOSURES :** MATCO Wheels and Brakes Installation Procedure
10. **ELABORATED BY:** Tomas Mahdalik, Documentation Dpt., Evektor-Aerotechnik
11. **APPROVED BY:** Petr Javorský, LSA Project manager

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22.07.2009  
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LSA Project Manager

22.07.2009  
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Date:



## **INFORMATIVE BULLETIN No. SPORTSTAR – 012 b**

### **Enclosure MATCO Wheels and Brakes Installation Procedure**

<b>Pictures</b>	<b>Instructions</b>
List of necessary tools: <ul style="list-style-type: none"><li>- 5 mm diam. drill bit to make a groove</li><li>- 10 mm diam. drill bit to make a groove</li><li>- 4.1 mm diam. drill bit for the CONTROL SYSTEM COVER LEFT</li><li>- 16.5 mm diam. drill bit for a backplate</li><li>- 5.3 mm diam. drill bit for a brake fluid reservoir</li></ul>	<ul style="list-style-type: none"><li>- Philips screw driver</li><li>- Wire cutters</li><li>- Hand electric drill</li><li>- M7 nut wrench</li><li>- M8 nut wrench</li><li>- M12 nut wrench</li><li>- M24 nut wrench</li><li>- file</li><li>- socket wrench size 3 (7/64" )</li><li>- socket wrench size 6</li><li>- Contact glue to fix absorbent material to a non-absorbent</li></ul>

#### **MATCO PARTS SPECIFICATION**

6" WEHEEL&BRAKE, E series 1,25 - left	MHMHE6B 1.25 EVLE	1	ks
6" WEHEEL&BRAKE, E series 1,25 - right	MHMHE6B 1.25 EVRI	1	ks
AXLE ASSEMBLY, A3EV	WHLAXLE3EV	2	ks
MASTER CYLINDER, MC-4EV	MCMC-4EV	4	ks
REMOTE RESERVOIR KIT	MCR-100K	1	ks
TUBE NYLON II .125 (1/8"x0.026")	MSCNNR2/026	12	m
TUBE NYLON (1/4"x0.035")	MSCNNR4/035	2	m
STRAIGHT FITTING	MSC268P	1	ks
BRASS ELBOW, 90 DEGR, 1/8"NPT - 1/4"	MSC269P	5	ks
BRASS ELBOW, 90 DEGR, 1/8"NPT - 1/8"	MSC169P	12	ks
PARKING BRAKE VALVE	PVPV-D	1	ks



Pictures	Instructions
	Remove upholstery from both seats.
	Remove sleeves from both control sticks.
	Use Philips screw driver to unscrew parking brake cover attachment screws .
	Use Philips screw driver to unscrew hand control system left and right cover and remove both covers.



**Pictures**



**Instructions**

Carefully remove both cockpit side panels.



Put an absorbent rag under the wheel brake and use M12 nut wrench to release the hose fitting to the brake cylinder. Do the same on opposite wheel.



Empty brake fluid into a bottle. Do the same for opposite wheel brake.

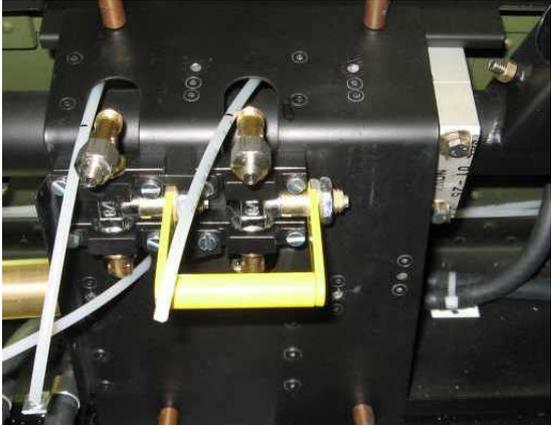
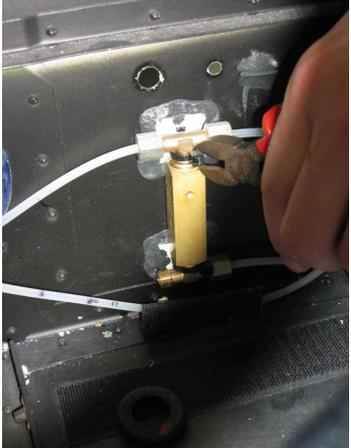
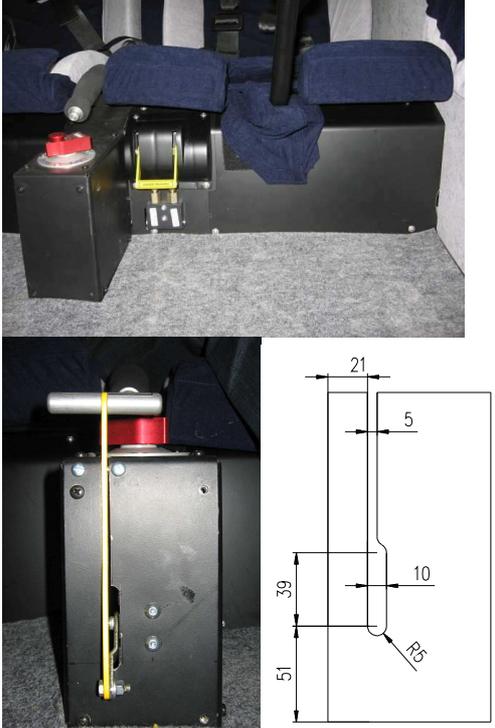


Pictures	Instructions
	<ol style="list-style-type: none"><li>1. Support the fuselage front section as shown on the picture.</li> <li>2. Support fuselage aft section as shown on the picture.</li></ol>
	<p>Demount main wheel pants (Philips screw driver)</p>
	<ol style="list-style-type: none"><li>1. Cut off safety wire by nippers</li><li>2. Screw off four bolts using Allen wrench size 6)</li></ol>



Pictures	Instructions
	<p>1. Follow instructions in Technical Service Bulletin supplied with the MATCO, to install the tires on the wheels. Bulletin is supplied with the Matco parts</p> <p>Follow instructions in the Matco Technical Service Bulletin to install the wheels.</p>
	<p>Screw down butterfly S5 30-02 01.</p>
	<p>Suit to wheel trim cap.</p>
	



Pictures	Instructions
	<ol style="list-style-type: none"><li>1. Release the nuts disconnect the hoses from the parking brake valves (M12 nut wrench).</li><li>2. Unscrew (Philips screw driver) and demount parking brake bracket.</li></ol>
	<ol style="list-style-type: none"><li>1. Demount brake hoses and single-way valves. Use snippers to cut tightening strips.</li><li>2. Disconnect hoses (M12 nut wrench).</li></ol>
	<ol style="list-style-type: none"><li>1. Demount side walls of the fuel selector box.</li><li>2. Make a template.</li><li>3. Use a supplied template to mark out a cut-out on the box front wall. (drill bit 10 mm, and 5 mm)</li></ol>

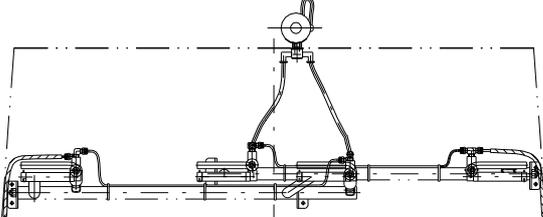


Pictures	Instructions
	<p>Pull the brake hose through a hole in fuselage side stiffener and then into the brake cylinder on the main leg.</p>
	<p>Attach the hose to the fuselage outer skin by means of cushion clamps.</p>
	<p>Use tightening strip and a polyurethane sealant (like Emfimastic PU 50) to fix brake hose to the main leg rear edge.</p>
	<p>Connect the hoses to the elbow (M12 nut wrench).</p>



Pictures	Instructions
	<p>Connect elbow fitting to the MATCO brake cylinder.</p>
	<p>Demount the original brake pumps.</p>
	<p>Insert new MATCO brake pump lower eye end into the fork on the pedal tube, insert the bolt, washer, and cotter pin.</p>
	<p>Demont a pin from the brake pump upper fork end, set the fork end on the eye of the brake pedal and use the pin to connect together.</p>



Pictures	Instructions
	Connect hoses to the elbow (M12 nut wrench).
	Connect hoses to the brake pumps. (graphical enclosure)
 	<ol style="list-style-type: none"><li>1. Drill hole of 16.5 mm diameter through the fire wall. according to drawing detail P.</li><li>2. Screw on connecting piece (drawing No. S5 00-67 21).</li><li>3. Connect hoses to the connecting piece.</li></ol>
	A view on elbow opposite side.

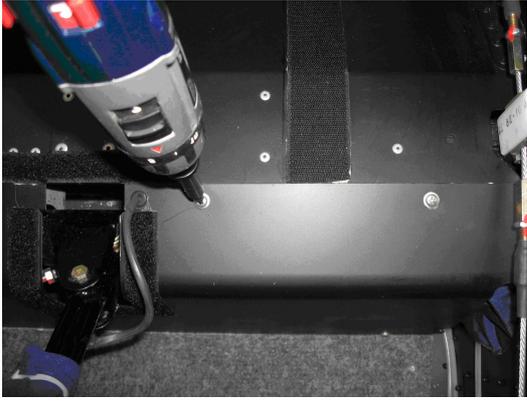
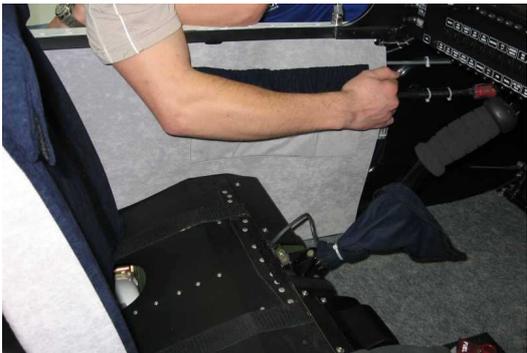


Pictures	Instructions
	<ol style="list-style-type: none"><li data-bbox="850 331 1358 398">1. Drill 2 holes of 5.3 mm diameter through the fire wall.</li><li data-bbox="850 421 1385 488">2. Install brake fluid reservoir using Bolt M5x12, Nut M5, Washer 5.3).</li><li data-bbox="850 510 1331 544">3. Connect hose to the reservoir.</li></ol>
	<ol style="list-style-type: none"><li data-bbox="850 790 1398 1261">1. Install the elbow fitting into the parking brake valve and position the valve to its place of installation. Mind the proper orientation of the valve. Directions of the elbows should be adjusted to avoid collision with the fuel selector installations. Mark the directions of the elbows, remove the parking brake valve and apply LOCTITE 577 (read General Installation Notes 1) to install the elbow fittings into the parking brake valve.</li><li data-bbox="850 1283 1374 1417">2. Attach the parking brake valve to the fuel selector box by means of the BOLT M5x30, WASHER 5.3, NUT M5.</li></ol>
	<ol style="list-style-type: none"><li data-bbox="850 1447 1398 1731">1. Apply LOCTITE 577 (read General Installation Notes 1) on approximately one half of the length of THREADED BAR M6x25 and insert the BAR into one of the parking brake T- lever grips, so that the length of protruding end is 13 mm.</li><li data-bbox="850 1753 1390 1888">2. After curing insert this grip into the parking brake lever (Pos. 1) and mount opposite grip (Pos. 4) again using LOCTITE 577.</li><li data-bbox="850 1910 1398 2022">3. According to a draing at the end of this Bulleting install the Parking Brake Lever into the fuel selector</li></ol>



Pictures	Instructions
	<p>box by means of a BUSHING, AXIS, WASHERS 4.3 and BOLTS M4x10 dle detailu D2</p> <p>4. Use BOLT M5x14, WASHER 5.3, and NUT M5 to connect installed parking brake lever with a control arm on the parking brake.</p>
	<p>1. 1. See the Drawing on last page of this Bulletin, detail A to make a cut-out through the right cover of the fuel selector box.</p>
	<p>2. Fill the system with appropriate brake fluid (Mil-H-5606 Aircraft hydraulic fluid. DOT5 can be used but not DOT3, DOT4, or DOT5.1 Automotive transmission fluid can also be used. Then bleed the system – follow General Installation Instructions 2</p> <p>3. Check all connections for leak.</p>
	<p>4. Re-install fuel selector box side covers</p>
	<p>1. The original hand control left cover, as well as parking brake cover should be replaced by a new hand control cover. Utilize the original covers to mark centers of holes for the attachment screws on the new cover. Then drill the holes and check that they fit</p> <p>2. Spray the new cover by readily available paint RAL9005 MAT</p>



Pictures	Instructions
	<ol style="list-style-type: none"><li>1. Position both left and right hand control covers and screw them down.</li><li>2. Tear off the Velcro strip from the original left cover and use suitable contact adhesive to attach the Velcro strip (absorbent material) to the new hand control cover (non-absorbent).</li></ol> <p>Follow the instructions supplied with the adhesive.</p>
	<p>Re-install both left and right control stick sleeve.</p>
	<p>Re-install both left and right cockpit side panel.</p>



Pictures	Instructions
	<p>Re-install both left and right seat upholstery.</p>
	<p><b>Perform brake system test:</b></p> <p>Check proper function of the brakes during taxiing and at turns. Both brakes should be equally effective. Otherwise repeat bleeding. Press and hold pressed brake pedal. Release bleeding screw on the brake cylinder. Brake fluid with air bubbles should run out. Tight the bleeding screw and release pressure on the pedal. Repeat this procedure until no bubbles are visible and just brake fluid runs out.</p>



## **GENERAL INSTALLATION INSTRUCTIONS**

### **1/ LOCTITE 577 sealant:**

1. To get best possible results, all surfaces (external as well as internal) should be cleaned up with the Loctite cleaners and let dry sufficiently.
2. Apply Activator 7471 or 7649 if the material is a non-active like metal or curing time is too long and let dry..
3. Apply a strip of adhesive all around the screw front threads, just not on the first thread. Crush adhesive into threads to fill the whole space in threads. For bigger diameter screws apply more adhesive as necessary to fill the threads and apply adhesive also into nut inner thread.
4. Ordinarily connect and use a pipe wrench to tight the screw joint as necessary to get proper position.
5. Properly tightened parts are immediately tight at mild pressure. The joint should cure at minimum for 24 hours to get maximum strength and resistivity againsts solvents.

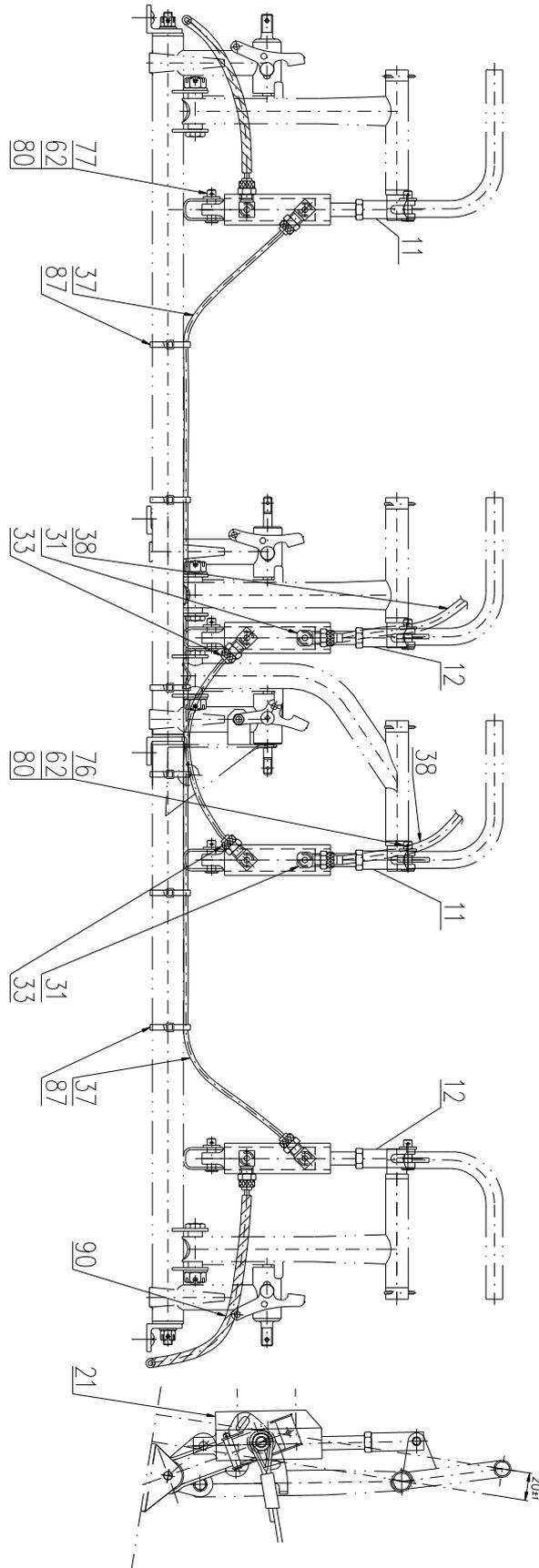
### **2/ MATCO BRAKE SYSTÉM FILLING AND BLEEDING**

Release slightly the bleeding screw on the brake cylinder (not fully to avoid drop out of a sealing ball).

Screw off the reservoir cup. Fill reservoir untill brake fluid starts to run out from the bleed screw. Pressing of pedal speeds up filling. Filling is complete when brake fluid with no air bubbles runs out the bleeding screw.

Put suitable bottle under the brake cylinder to catch brake fluid. Be carefull – protect your hands,as well as airplane painted parts, because the brake fluid is aggressive. Do not re-use run-out fluid. Recommended brake fluid level is about 15-20 mm ( 1/2"-3/4") below top edge. Screw down the reservoir cup, and clean it with a rag. Tight the bleeding screw on the brake cylinder.





A<sub>2</sub>-A<sub>2</sub>

