



AVIA PROPELLER Ltd.

Beranových 666, 199 00 Praha - Letňany, Czech Republic

INFORMATION BULLETIN

No.: V 410-9-I/61

Re: Supplements to technical descriptions and working instructions for the V 410 and the V 410A airscrews.

Motive: Precise determining of maintenance of airscrews in operation.

Recommendation:

In the annex of this bulletin we hand you over the following:

- 1) The supplement No. 1 – airscrew unit with position control for single-engined airplanes VJ 1b.410.
- 2) Supplement No. 2 – constructional modification of the engine case and consequently, of bracket for M 332 engines (see also bulletin No. V 410-3-I/59).
- 3) Supplement No. 3 - modifications and supplements to V 410 airscrew certificate (with table I and II).

These supplements 1 – 3 relate to the first issue of the descriptions and working instructions with continuous pagination from 1 to 41 of V 410 airscrews. The supplements shall be inserted into the working instructions.

We enclose further:

- 4) The supplement No. 1 for airscrew units VJ 1.410 and VJ 3.410 (of airscrew V 410).
- 5) The supplement No. 2 for airscrew units VJ 3.410.

These supplements No. 1 and 2 under points 4) and 5) refer to the latest issue of the Description and Working Instructions of the V 410 airscrew (single-engined VJ 1.410 and twin-engined VJ 3.410) numbered 1/1 – V/2 and 1/1 – V/3, in which the corresponding alterations and supplements must be carried out.

Date: January 1, 1961

ing. Hadrava m. p.
Manufacturer

Sedláček m. p.
Customer's representative

Annex:

Supplement No. 1 }
Supplement No. 2 } for the 1st issue
Supplement No. 3 } and 4 sheets in all
(with 2 tables)

Supplement No. 1 }
Supplement No. 2 } for the 2nd issue
and 3 sheets in all

Supplement No. 1
to the technical description and working instructions
of the V 410 airscrew
(1st issue)

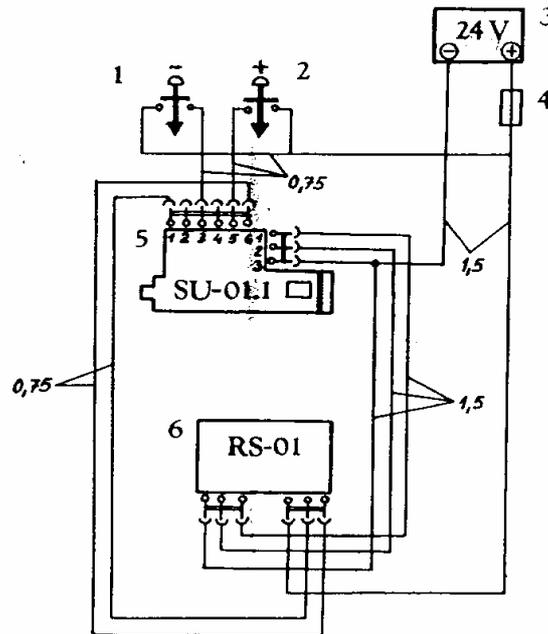


Fig. 1a - Electrical connexion of the airscrew unit

VJ 1b.410

1 - lower speed, 2 – overspeed, 3 - battery 24 V, 4 - overcurrent circuit breaker, 5 - adjustable mechanism SU-01.1, 6 - relay box RS-01

Airscrew unit with position control for single-engined airplanes VJ 1b.410

Two 5 K push-buttons switches are used for position control. They are built into the handle of the airplane gear shift lever and marked “+” and “-“ with white colour.

By these push-buttons, the incidence of the airscrew blades in accordance with the corresponding flight or engine regime is set during flight. On depressing the push-button marked “+” the speed of the engine is increased (the incidence of the airscrew blades decreases), on depressing the push-button marked “-“ the speed of the engine is reduced (the incidence of the airscrew blades increases). The two extreme positions of the setting of the airscrew blades are secured by terminal switches.

This airscrew unit is a temporary replacement for the VJ 1.410 airscrew unit.

Supplement No. 2
to the technical description and working instructions
of the V 410 airscrew
(1st issue)

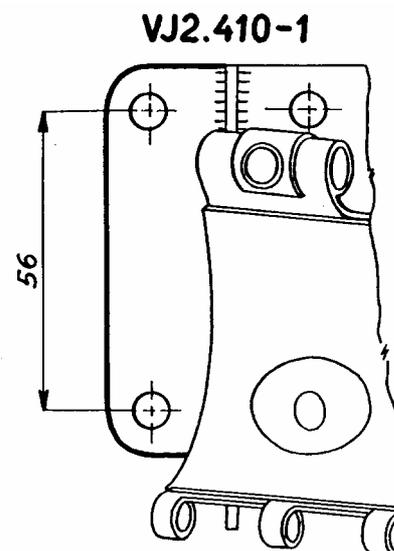
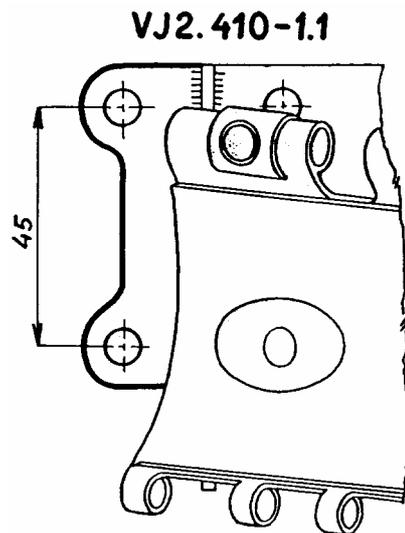
The manufacturing plant of M 332 engines has carried out a constructional modification on the engine case, by which the height of the lug for fastening the bracket of the airscrew electrical adjusting mechanism is altered. The bracket has to be adapted in compliance with this modification so as to ensure the accurate function for controlling the airscrew.

For this reason, it is necessary for the users of V 410 airscrew to state on ordering the spare bracket only or, as the case may be, the complete spare airscrew, for what engine (according to manufacturing number) the bracket will be used. Also, on mounting the airscrew on the engine, it is recommended to perform an inspection.

M 332 engines with higher lugs have been produced from manufacturing number 48245 onwards and airscrews with brackets according to the drawing number VJ 2.410-1.1 are supplied (this number of drawing is stated in the airscrew record book and it is punched, too, on the bracket). The meaning of this is that on no account may the VJ 2.410-1.1 bracket be applied for the M 332 engines with manufacturing number up to 48244 and vice versa.

The bracket for engine M 332
from manufacturing number
48245 onwards

The bracket for M 332 engine
up to manufacturing number
48244



Letňany, 30. 3. 1960

Supplement No. 3

to the Manual: "Technical Description and Operation Instructions of Airscrew Type V 410"

(1st issue)

Re: Modifications and supplements in the text.

In the manual cited, the following completions and alterations are to be carried out:

1) On page 40, after the paragraph c) Operational inspection:

After 50 hours of operation, the condition of the switching contacts and the case of magnet core running is to be checked.

the following sentence must be added:

At each cleaning and washing of the engine and its component parts with petrol, the relay box RS – 01 must be protected so that no petrol or oil dissolved in the petrol gets in to contact with the relay box since its housing is protected by a rubber sealing inside, which would be corroded by petrol.

2) On page 15 in section 3 paragraph a) and on page 20 in the fifth line from the top of the page, alter the moment $M_k = 5 \text{ kgm}$ to $M_k = 6 \text{ kgm}$.

3) On page 13 in section 2 in the line "Lubrication of Airscrews" cancel the stated thick fats LTK – M or Intava Low Temperature Grease" or "Aero Shell – grease II" and replace it by following:

Aero – Shell 6B
C – 201 GOST 6267-52

4) Page 10 and 11 are replaced by new modified and supplemented pages which we enclose in the annex for sticking in.

5) On page 6 in the eight line from the top alter the wording: "approximately by 4 revolutions" to "approximately by 1 ¾ revolutions".

Further, the text in the 9th to 15th line, i. e. "Ascertain by engine test, whether..... corresponds, up to.....will diminish by the same value", must be replaced by the text below:

"The assembly of all assembly parts being finished, the controlled resetting of the airscrew from "starting" to "feathering" angle and back will be carried out. After adjusting the individual positions, the airscrew must have at a definite engine output, the specified speed stated in the table on page 10".

konstrukce vrtulí		Technický popis a provozní instrukce vrtule V 410					List: 10				
Cztačení vrtulové jednotky	Motor typ	N _{max} k	n _{max} 1/min	Cztačení tlačítka pro serizovanou polohu	Otáčky vrtule při V = 0 ±25 ot/min	Poloha plynové páky	Poloha voliče otáček	Číslo sestavy	Maximální doba pro serizování	Pozn.	
											Regulace
VJ 1.410	M4-III	105	2500	"Start"	2300	plný plyn	-	1	1'		
				"Stoup"	2200	"	-	2	50	1'	
				"Max" - "Let"	1600	"	-	3	50	30"	
VJ 2.410	M6-III	160	2500	"Start"	2300	"	-	1	60	1'	
				"Stoup"	2200	"	-	2	50	1'	
				"Max" - "Let"	1600	"	-	3	50	30"	
VJ 3.410	M 332	140	2700	"Start"	2400	s kompres.	-	1	60	1'	
				"Stoup"	2300	plný plyn	-	2	50	1'	
				"Max" - "Let"	1700	"	-	3	50	30"	
	M 337	210	2750	"Start"	2450	s kompres.	-	1	60	1'	
				"Stoup"	2350	plný plyn	-	2	50	1'	
				"Max" - "Let"	1700	"	-	3	50	30"	
VJ 5.410	M4-III	105	2500	Regulace		"	-	1	1'		
				Regulace		"	-	3	30"		
				Regulace		"	-	-	-	-	
VJ 6.410	M6-III	160	2500	Regulace		"	-	1	1'		
				Regulace		"	-	3	30"		
				Regulace		"	-	-	-	-	
	M 332	140	2700	Regulace		s kompres.	-	1	1'		
				Regulace		plný plyn	-	3	30"		
				Regulace		s kompres.	-	-	-	-	
	M 337	210	2750	Regulace		plný plyn	-	1	1'		
				Regulace		s kompres.	-	3	30"		
				Regulace		plný plyn	-	-	-	-	

konstrukce vrtulí		Technický popis a provozní instrukce vrtule V 410					List: 11			
Označení vrtulové jednotky	Váha vrtulové jednotky kg	Váha vrtulové jednotky v do- pravní bedně	Min.úhel nastavení listů	Rozsah stavění	Přestav. rychlost do prapora		Motor	Letadlo	Průměr vrtule	Typové označení vrtulové jednotky
					pracovní	do prapora				
VJ 1.410	29,9	47,5	13°10'	20°			M4-III M6-III M 332 M 337	L 40	1850	VJ 1.410/1850
	29,5	47,1	14°					L 40	1850	VJ 1.410/1850
VJ 2.410							M4-III M6-III M 332 M 337			
	29,5	47,1	14°					Ae 45	1800	VJ 3.410/1800
VJ 3.410	29,6	47,2	17°	65°			M6-III M 332	L 200	1900	VJ 3.410/1900
	29,1	45,7	16°				M 337	Ae 145	1800	VJ 3.410/1800
	29,6	47,2	18°				M 337	L 200	1900	VJ 3.410/1900
VJ 5.410							M4-III M6-III M 332 M 337			
VJ 6.410							M4-III M6-III M 332 M 337			

Úhlové údaje jsou informativní a závisí na výkonu motoru.

Letňany, 28th March 1960

Supplement No. 1
(for VJ 1.410 and VJ 3.410)

to Manual "Technical Description and Working Instructions for Airscrews V 410".

Re: Completion of text.

On page IV-3 the working instructions mentioned above behind paragraph c.) Operational inspection, worded as follows:

“After 50 hours of operation, check the state of switching contacts and the ease of running of the magnetic core”.

should be completed with the following text:

“At each cleaning or, as the case may be, washing of the engine and its components with petrol, the relay box RS – 01 must be protected so that no petrol or oil dissolved in petrol comes in to contact with the relay box, since its housing is protected by a rubber packing on the inner side, which would be corroded by petrol”.

Letňany, 15th November 1960

Supplement No. 2
(for VJ 3.410)to Manual „The Technical Description and Working Instructions for Airscrews V-410“

with the three-position control and feathering position for twin-engined airplanes – the airscrew unit VJ 3.410.

Re: Completion of the text by corrections and alterations which have occurred in the course of operation.

- 1) Page 1-2 point 3 modify the dates in the table and complete it as follows:

31	40	12°	70°	M4-III	Ae 45	1800	VJ 3.410A/1800
31,5	40,4	15°	67°	M6-III	L 200	1900	VJ 3.410A/1900
31	40	12°	70°	M 332	Ae 145	1800	VJ 3.410A/1800
31,5	40,4	15°	67°	M 337	L 200 A	1900	VJ 3.410A/1900

When using the tin transport case, the weight of the airscrew unit is increased by 9 kg.

- 2) Page 1-6 on the 13th line from bottom alter the text (“for 15 days”) to the correct text: “for ½ to 6 months” and on the same page on the 12th line from bottom alter the text (“24 hours”) to the correct text: “48 hours”.
- 3) Page 1-7 on the 11th line from the top alter the text (“for 14 days”) to the correct text: “for 2 to 6 weeks” on the 17th line from the top modify the word “oils” to “oils LM 1200” on the 19th line from the top complete the text by the following text: “Wrap the remaining airscrew apparatuses into paraffin paper and wind it round with twine. Put some grease on the apparatuses wrapped up in this manner”.
- 4) Page II-1 on the 4th line from the bottom complete the weight of the airscrew as follows:

$$\frac{V\ 410}{1850} = 26\ \text{kg}$$

$$\frac{V\ 410A}{1800} = 26,5\ \text{kg}$$

$$\frac{V\ 410A}{1900} = 27\ \text{kg}$$
- 5) Page II-7 behind the last line at the bottom complete with this warning: “Caution ! On tightening, the airscrew blades must be set at the position of maximum angle, i. e. by the engine flange”.
- 6) Page II-8 behind the 11th line from the bottom write in the following sentence: “Reset the airscrew according to chapter I paragraph 3 and 5”.

- 7) Page II-9 on 18th line alter the text “approximately 50 g” to “minimum 50 g” and on line 21 alter the text “For lubrication
- 8) Page III-1 on line 17 alter the weight “0.75kg” to “2,75 kg”
- 9) Page III-3 on 2ⁿ alter (“Fog. 19”) to “Fig.3.1”.
- 10) Page IV-1 on 13th line complete the weight by “0.85 kg”.
- 11) Page IV-3 on 12th line alter the word “downwards” to “upwards”
- 12) Page V-1 on 11th line complete the weight by “0.85 kg”.
- 13) Page II-12 on 7th line alter the word “dismounting” to “mounting”.