



Check list for frame ropes of trawl TV3-930 #			
Manual TV3-930 # page 59	Measured distance [m]		Remarks
	Standard	TV3-520 # -02	
Head line extension Port.	4.00	4	
Head line wing section Port.	28.50	28.58	
Head line bosom section	2.50	2.6	
Head line wing section Stbd.	28.50	28.58	
Head line extension Stbd.	4.00	4	
Fishing line extension Port.	0.95	0.95	
Fishing line wing section Port.	29.94	0.95	
Fishing line bosom section	1.68	1.68	
Fishing line wing section Stbd.	29.94	29.9	
Fishing line extension Stbd.	0.95	0.95	
Upper wing line Port.	2.70	2.6	
Upper wing line Stbd.	2.70	2.8	
Upper wing side Port.	2.15	2.6	
Upper wing side Stbd.	2.15	2.6	
Lower wing line Port.	2.75	2.85	
Lower wing line Stbd.	2.75	2.8	
Lower wing side Port.	2.20	2.8	
Lower wing side Stbd.	2.20	2.65	
Type of fishing gear:	TV3-930 #	GRØN !	
Nation:	Denmark		
Date of measurements:	22/3 2017		
Name of operators:	Knudsen		
Number of realized hauls:	????		
Comments concerning the use:			

Table 6.1.2. Results of the Danish fishing gear check-up.

Check list for trawl TV3-930 #											
Section	Manual TV3-930 # page 57	Standard			Tag no. TV3-930 # -				Relative error [%]		Remarks
		Measured distance	Mesh size [mm]	Number of meshes	Measured distance	Mesh size [mm]	Mesh size mean	Number of meshes	Mesh size [mm]	Number of meshes	
1	1B1	22.10	200	111	21.93	200	200	109.7	0.0	-0.8	
	1A1	22.10	200	111	21.98	200	200	109.9	0.0	-0.5	
	1A2	22.10	200	111	21.97	200	200	109.9	0.0	-0.6	
	1B2	22.10	200	111	21.95	200	200	109.8	0.0	-0.7	
	1C1	8.28	120	69	22.35	120	120	186.3	0.0	169.9	Column C cannot be right
	1C2	8.28	120	69	22.38	120	120	186.5	0.0	170.3	Column C cannot be right
2	2B1	2.96	160	19	2.87	160	160	17.9	0.0	-3.0	
	2A	2.96	160	19	2.85	160	160	17.8	0.0	-3.7	
	2B2	2.96	160	19	2.84	160	160	17.8	0.0	-4.1	
	2C1	3.00	120	25	2.98	120	120	24.8	0.0	-0.7	
	2C2	3.00	120	25	3.01	120	120	25.1	0.0	0.3	
3	3B1	2.94	120	25	2.72	120	120	22.7	0.0	-7.5	
	3A	2.94	120	25	2.69	120	120	22.4	0.0	-8.5	
	3B2	2.94	120	25	2.72	120	120	22.7	0.0	-7.5	
	3C	3.00	120	25	2.92	120	120	24.3	0.0	-2.7	
4	4B1	7.92	80	99	7.50	80	80	93.8	0.0	-5.3	
	4A	7.92	80	99	7.49	80	80	93.6	0.0	-5.4	
	4B2	7.92	80	99	7.55	80	80	94.4	0.0	-4.7	
	4C	8.00	80	100	7.65	80	80	95.6	0.0	-4.4	
5	5B1	5.94	60	99	5.40	60	60	90.0	0.0	-9.1	
	5A	5.94	60	99	5.41	60	60	90.2	0.0	-8.9	
	5B2	5.94	60	99	5.42	60	60	90.3	0.0	-8.8	
	5C	6.00	60	100	5.50	60	60	91.7	0.0	-8.3	
6	6B1	11.92	40	298	10.70	40	40	267.5	0.0	-10.2	
	6A	11.92	40	298	10.70	40	40	267.5	0.0	-10.2	
	6B2	11.92	40	298	10.72	40	40	268.0	0.0	-10.1	
	6C	12.00	40	300	10.79	40	40	269.8	0.0	-10.1	
Codend			20			20	20		0.0		
			20			20	20		0.0		
Mean mesh opening in codend (OMEGA mesh gauge): mm (n, n, n, n, n, n, n, n, n, n, n, n)											

Check list for frame ropes of trawl TV3-930 #			
Manual TV3-930 # page 59	Measured distance [m]		Remarks
	Standard	TV3-520 # -02	
Head line extension Port.	4.00	4.2	
Head line wing section Port.	28.50	28.5	
Head line bosom section	2.50	26	
Head line wing section Stbd.	28.50	28.5	
Head line extension Stbd.	4.00	4.2	
Fishing line extension Port.	0.95	1.25	
Fishing line wing section Port.	29.94	30.1	
Fishing line bosom section	1.68	1.68	
Fishing line wing section Stbd.	29.94	29.94	
Fishing line extension Stbd.	0.95	1.1	
Upper wing line Port.	2.70	2.7	
Upper wing line Stbd.	2.70	2.7	
Upper wing side Port.	2.15	2.2	
Upper wing side Stbd.	2.15	2.25	
Lower wing line Port.	2.75	2.7	
Lower wing line Stbd.	2.75	2.75	
Lower wing side Port.	2.20	2.25	
Lower wing side Stbd.	2.20	2.2	
Type of fishing gear:	TV3-930 #	GUL II	
Nation:		Denmark	
Date of measurements:		16/3 2017	
Name of operators:		Knudsen	
Number of realized hauls:		???	
Comments concerning the use:			

Table 6.1.3. Results of the Danish fishing gear check-up.

Check list for trawl TV3-930 #											
Section	Manual TV3-930 # page 57	Standard			Tag no. TV3-930 # -				Relative error [%]		Remarks
		Measured distance	Mesh size [mm]	Number of meshes	Measured distance	Mesh size [mm]	Mesh size mean	Number of meshes	Mesh size [mm]	Number of meshes	
1	1B1	22.10	200	111	22.95	200	200	114.8	0.0	3.8	
	1A1	22.10	200	111	22.23	200	200	111.2	0.0	0.6	
	1A2	22.10	200	111	22.00	200	200	110.0	0.0	-0.5	
	1B2	22.10	200	111	22.00	200	200	110.0	0.0	-0.5	
	1C1	8.28	120	69	22.53	120	120	187.8	0.0	172.1	Column C cannot be right
	1C2	8.28	120	69	22.30	120	120	185.8	0.0	169.3	Column C cannot be right
2	2B1	2.96	160	19	2.79	160	160	17.4	0.0	-5.7	
	2A	2.96	160	19	2.78	160	160	17.4	0.0	-6.1	
	2B2	2.96	160	19	2.76	160	160	17.3	0.0	-6.8	
	2C1	3.00	120	25	2.91	120	120	24.3	0.0	-3.0	
	2C2	3.00	120	25	2.86	120	120	23.8	0.0	-4.7	
3	3B1	2.94	120	25	2.68	120	120	22.3	0.0	-8.8	
	3A	2.94	120	25	2.66	120	120	22.2	0.0	-9.5	
	3B2	2.94	120	25	2.71	120	120	22.6	0.0	-7.8	
	3C	3.00	120	25	2.80	120	120	23.3	0.0	-6.7	
4	4B1	7.92	80	99	7.91	80	80	98.9	0.0	-0.1	
	4A	7.92	80	99	7.91	80	80	98.9	0.0	-0.1	
	4B2	7.92	80	99	7.91	80	80	98.9	0.0	-0.1	
	4C	8.00	80	100	8.00	80	80	100.0	0.0	0.0	
5	5B1	5.94	60	99	5.58	60	60	93.0	0.0	-6.1	
	5A	5.94	60	99	5.60	60	60	93.3	0.0	-5.7	
	5B2	5.94	60	99	5.62	60	60	93.7	0.0	-5.4	
	5C	6.00	60	100	5.74	60	60	95.7	0.0	-4.3	
6	6B1	11.92	40	298	11.66	40	40	291.5	0.0	-2.2	
	6A	11.92	40	298	11.71	40	40	292.8	0.0	-1.8	
	6B2	11.92	40	298	11.71	40	40	292.8	0.0	-1.8	
	6C	12.00	40	300	11.89	40	40	297.3	0.0	-0.9	
Codend			20			20	20		0.0		
			20			20	20		0.0		
Mean mesh opening in codend (OMEGA mesh gauge): mm (n, n, n, n, n, n, n, n, n, n, n, n)											

Check list for frame ropes of trawl TV3-930 #			
Manual TV3-930 # page 59	Measured distance [m]		Remarks
	Standard	TV3-520 # -02	
Head line extension Port.	4.00	4.2	
Head line wing section Port.	28.50	28.5	
Head line bosom section	2.50	26	
Head line wing section Stbd.	28.50	28.5	
Head line extension Stbd.	4.00	4.2	
Fishing line extension Port.	0.95	1.25	
Fishing line wing section Port.	29.94	30.1	
Fishing line bosom section	1.68	1.68	
Fishing line wing section Stbd.	29.94	29.94	
Fishing line extension Stbd.	0.95	1.1	
Upper wing line Port.	2.70	2.7	
Upper wing line Stbd.	2.70	2.7	
Upper wing side Port.	2.15	2.2	
Upper wing side Stbd.	2.15	2.25	
Lower wing line Port.	2.75	2.7	
Lower wing line Stbd.	2.75	2.75	
Lower wing side Port.	2.20	2.25	
Lower wing side Stbd.	2.20	2.2	

Type of fishing gear:	TV3-930 #	GUL II
Nation:		Denmark
Date of measurements:		16/3 2017
Name of operators:		Knudsen
Number of realized hauls:		???
Comments concerning the use:		

Table 6.1.4. Results of the Swedish fishing gear check-up (Trawl No. 1).

Check list for trawl and for frame ropes of trawl Tag no. TV3-930 #					Country:	Year:	Quarter:	Date:	Remarks:		
Trawl no./nam l					Swe	2016	2	2016-06-06			
Check list for trawl TV3-930 #											
Section	Manual TV3-930 # page 57	Standard			Tag no. TV3-930 # -				Relative error [%]		Remarks
		Measured distance [m]	Mesh size [mm]	Number of meshes	Measured distance [m]	Mesh size [mm]	Mesh size mean	Number of meshes	Mesh size [mm]	Number of meshes	
1	1B1	22.10	200	111	21.90	200	200	109.5	0.0	-0.9	
	1A1	22.10	200	111	20.90	200	200	104.5	0.0	-5.4	
	1A2	22.10	200	111	21.15	200	200	105.8	0.0	-4.3	
	1B2	22.10	200	111	21.90	200	200	109.5	0.0	-0.9	
	1C1	8.28	120	69	22.16	120	120	184.7	0.0	167.6	Most be error in protokol
	1C2	8.28	120	69	22.35	120	120	186.3	0.0	169.9	Most be error in protokol
2	2B1	2.96	160	19	2.77	160	160	17.3	0.0	-6.4	
	2A	2.96	160	19	2.73	160	160	17.1	0.0	-7.8	
	2B2	2.96	160	19	2.77	160	160	17.3	0.0	-6.4	
	2C1	3.00	120	25	2.96	120	120	24.7	0.0	-1.3	
	2C2	3.00	120	25	2.94	120	120	24.5	0.0	-2.0	
3	3B1	2.94	120	25	2.82	120	120	23.5	0.0	-4.1	
	3A	2.94	120	25	2.81	120	120	23.4	0.0	-4.4	
	3B2	2.94	120	25	2.82	120	120	23.5	0.0	-4.1	
	3C	3.00	120	25	2.95	120	120	24.6	0.0	-1.7	
4	4B1	7.92	80	99	7.76	80	80	97.0	0.0	-2.0	
	4A	7.92	80	99	7.75	80	80	96.9	0.0	-2.1	
	4B2	7.92	80	99	7.72	80	80	96.5	0.0	-2.5	
	4C	8.00	80	100	7.85	80	80	98.1	0.0	-1.9	
5	5B1	5.94	60	99	5.87	60	60	97.8	0.0	-1.2	
	5A	5.94	60	99	5.80	60	60	96.7	0.0	-2.4	
	5B2	5.94	60	99	5.75	60	60	95.8	0.0	-3.2	
	5C	6.00	60	100	5.85	60	60	97.5	0.0	-2.5	
6	6B1	11.92	40	298	11.61	40	40	290.3	0.0	-2.6	
	6A	11.92	40	298	11.60	40	40	290.0	0.0	-2.7	
	6B2	11.92	40	298	11.65	40	40	291.3	0.0	-2.3	
	6C	12.00	40	300	12.05	40	40	301.3	0.0	0.4	
Codend			20								
			20								
Mean mesh opening in codend (OMEGA mesh gauge): mm (n, n, n, n, n, n, n, n, n, n, n, n)											

Check list for frame ropes of trawl TV3-930 #			
Manual TV3-930 # page 59	Measured distance [m]		Remarks
	Standard	TV3-930 #	
Head line extension Port.	4.00	3.92	
Head line wing section Port.	28.50	28.47	
Head line bosom section	2.50	2.6	
Head line wing section Stbd.	28.50	28.37	
Head line extension Stbd.	4.00	3.93	
Fishing line extension Port.	0.95	1	
Fishing line wing section Port.	29.94	30.17	
Fishing line bosom section	1.68	1.7	
Fishing line wing section Stbd.	29.94	30.18	
Fishing line extension Stbd.	0.95	1	
Upper wing line Port.	2.70	2.73	
Upper wing line Stbd.	2.70	2.68	
Upper wing side Port.	2.15	2.48	
Upper wing side Stbd.	2.15	2.52	
Lower wing line Port.	2.75	2.65	
Lower wing line Stbd.	2.75	2.68	
Lower wing side Port.	2.20	2.52	
Lower wing side Stbd.	2.20	2.48	

Table 6.1.5. Results of the Swedish fishing gear check-up (Trawl No. 2).

Check list for trawl and for frame ropes of trawl Tag no. TV3-930 #					Country:	Year:	Quarter:	Date:	Remarks:		
Trawl no./nam 2					SWE	2016	2	2016-06-06			
Check list for trawl TV3-930 #											
Section	Manual TV3-930 # page 57	Standard			Tag no. TV3-930 # -				Relative error [%]		Remarks
		Measured distance [m]	Mesh size [mm]	Number of meshes	Measured distance [m]	Mesh size [mm]	Mesh size mean	Number of meshes	Mesh size [mm]	Number of meshes	
1	1B1	22.10	200	111	22.11	200	200	110.6	0.0	0.0	
	1A1	22.10	200	111	21.56	200	200	107.8	0.0	-2.4	
	1A2	22.10	200	111	21.17	200	200	105.9	0.0	-4.2	
	1B2	22.10	200	111	22.36	200	200	111.8	0.0	1.2	
	1C1	8.28	120	69	22.13	120	120	184.4	0.0	167.3	Wrong length in protokoll
	1C2	8.28	120	69	22.58	120	120	188.2	0.0	172.7	Wrong length in protokoll
2	2B1	2.96	160	19	2.90	160	160	18.1	0.0	-2.0	
	2A	2.96	160	19	2.79	160	160	17.4	0.0	-5.7	
	2B2	2.96	160	19	2.89	160	160	18.1	0.0	-2.4	
	2C1	3.00	120	25	3.02	120	120	25.2	0.0	0.7	
	2C2	3.00	120	25	3.02	120	120	25.2	0.0	0.7	
3	3B1	2.94	120	25	2.84	120	120	23.7	0.0	-3.4	
	3A	2.94	120	25	2.80	120	120	23.3	0.0	-4.8	
	3B2	2.94	120	25	2.80	120	120	23.3	0.0	-4.8	
	3C	3.00	120	25	2.87	120	120	23.9	0.0	-4.3	
4	4B1	7.92	80	99	7.76	80	80	97.0	0.0	-2.0	
	4A	7.92	80	99	7.83	80	80	97.9	0.0	-1.1	
	4B2	7.92	80	99	7.82	80	80	97.8	0.0	-1.3	
	4C	8.00	80	100	7.86	80	80	98.3	0.0	-1.8	
5	5B1	5.94	60	99	5.93	60	60	98.8	0.0	-0.2	
	5A	5.94	60	99	5.87	60	60	97.8	0.0	-1.2	
	5B2	5.94	60	99	5.92	60	60	98.7	0.0	-0.3	
	5C	6.00	60	100	5.92	60	60	98.7	0.0	-1.3	
6	6B1	11.92	40	298	11.64	40	40	291.0	0.0	-2.3	
	6A	11.92	40	298	11.67	40	40	291.8	0.0	-2.1	
	6B2	11.92	40	298	11.64	40	40	291.0	0.0	-2.3	
	6C	12.00	40	300	11.73	40	40	293.3	0.0	-2.3	
Codend			20								
			20								
Mean mesh opening in codend (OMEGA mesh gauge): mm (n, n, n, n, n, n, n, n, n, n, n)											

Check list for frame ropes of trawl TV3-930 #			
Manual TV3-930 # page 59	Measured distance [m]		Remarks
	Standard	TV3-930 #	
Head line extension Port.	4.00	3.96	
Head line wing section Port.	28.50	28.45	
Head line bosom section	2.50	2.6	
Head line wing section Stbd.	28.50	28.64	
Head line extension Stbd.	4.00	3.96	
Fishing line extension Port.	0.95	1	
Fishing line wing section Port.	29.94	30.2	
Fishing line bosom section	1.68	1.7	
Fishing line wing section Stbd.	29.94	30.22	
Fishing line extension Stbd.	0.95	1	
Upper wing line Port.	2.70	2.52	
Upper wing line Stbd.	2.70	2.67	
Upper wing side Port.	2.15	2.53	
Upper wing side Stbd.	2.15	2.56	
Lower wing line Port.	2.75	20.67	
Lower wing line Stbd.	2.75	2.90	
Lower wing side Port.	2.20	2.56	
Lower wing side Stbd.	2.20	2.56	

Table 6.1.6. Results of the Swedish fishing gear check-up (Trawl No. 3).

Check list for trawl and for frame ropes of trawl Tag no. TV3-930 #					Country:	Year:	Quarter:	Date:	Remarks:		
Trawl no./nam 3					SWE	2016	2	2016-06-06			
Check list for trawl TV3-930 #											
Section	Manual TV3-930 # page 57	Standard			Tag no. TV3-930 # -				Relative error [%]		Remarks
		Measured distance [m]	Mesh size [mm]	Number of meshes	Measured distance [m]	Mesh size [mm]	Mesh size mean	Number of meshes	Mesh size [mm]	Number of meshes	
1	1B1	22.10	200	111	22.26	200	200	111.3	0.0	0.7	
	1A1	22.10	200	111	21.66	200	200	108.3	0.0	-2.0	
	1A2	22.10	200	111	21.64	200	200	108.2	0.0	-2.1	
	1B2	22.10	200	111	22.25	200	200	111.3	0.0	0.7	
	1C1	8.28	120	69	22.72	120	120	189.3	0.0	174.4	
	1C2	8.28	120	69	22.50	120	120	187.5	0.0	171.7	
2	2B1	2.96	160	19	2.88	160	160	18.0	0.0	-2.7	
	2A	2.96	160	19	2.82	160	160	17.6	0.0	-4.7	
	2B2	2.96	160	19	2.88	160	160	18.0	0.0	-2.7	
	2C1	3.00	120	25	3.01	120	120	25.1	0.0	0.3	
	2C2	3.00	120	25	3.02	120	120	25.2	0.0	0.7	
3	3B1	2.94	120	25	3.00	120	120	25.0	0.0	2.0	
	3A	2.94	120	25	2.93	120	120	24.4	0.0	-0.3	
	3B2	2.94	120	25	3.00	120	120	25.0	0.0	2.0	
	3C	3.00	120	25	3.04	120	120	25.3	0.0	1.3	
4	4B1	7.92	80	99	7.77	80	80	97.1	0.0	-1.9	
	4A	7.92	80	99	7.79	80	80	97.4	0.0	-1.6	
	4B2	7.92	80	99	7.74	80	80	96.8	0.0	-2.3	
	4C	8.00	80	100	7.85	80	80	98.1	0.0	-1.9	
5	5B1	5.94	60	99	5.85	60	60	97.5	0.0	-1.5	
	5A	5.94	60	99	5.80	60	60	96.7	0.0	-2.4	
	5B2	5.94	60	99	5.80	60	60	96.7	0.0	-2.4	
	5C	6.00	60	100	5.86	60	60	97.7	0.0	-2.3	
6	6B1	11.92	40	298	11.80	40	40	295.0	0.0	-1.0	
	6A	11.92	40	298	11.80	40	40	295.0	0.0	-1.0	
	6B2	11.92	40	298	11.80	40	40	295.0	0.0	-1.0	
	6C	12.00	40	300	11.80	40	40	295.0	0.0	-1.7	
Codend			20								
			20								
Mean mesh opening in codend (OMEGA mesh gauge): mm (n, n, n, n, n, n, n, n, n, n, n)											

Check list for frame ropes of trawl TV3-930 #			
Manual TV3-930 # page 59	Measured distance [m]		Remarks
	Standard	TV3-930 #	
Head line extension Port.	4.00	3.97	
Head line wing section Port.	28.50	28.37	
Head line bosom section	2.50	2.6	
Head line wing section Stbd.	28.50	28.49	
Head line extension Stbd.	4.00	3.96	
Fishing line extension Port.	0.95	1.01	
Fishing line wing section Port.	29.94	29.74	
Fishing line bosom section	1.68	2.6	
Fishing line wing section Stbd.	29.94	29.64	
Fishing line extension Stbd.	0.95	0.95	
Upper wing line Port.	2.70	2.64	
Upper wing line Stbd.	2.70	2.75	
Upper wing side Port.	2.15	2.64	
Upper wing side Stbd.	2.15	2.60	
Lower wing line Port.	2.75	2.85	
Lower wing line Stbd.	2.75	2.90	
Lower wing side Port.	2.20	2.60	
Lower wing side Stbd.	2.20	2.64	
Type of fishing gear: TV3-930 #			
Nation: Sweden			
Date of measurements: 6/6/2016			
Name of operators: Olof Lövgren			
Number of realized hauls:			
Comments concerning the use: All 3 trawls checked by Olof Lövgren			

**Table 6.1.7. Results of the Polish fishing gear check-up (Trawl No. 1). Check of the TV-3#930 STANDARD GEAR used during the BITS since 2000**

Table of gear data

Type of fishing gear	TV3#930 No. 1	
Nation	Poland	
Date of measurements	08.03.2017	
Name of operators		
Number of realized hauls	over 400, permanently used	
Comments concerning the use	many meshes are overstretched, need to replace in the future	
Manual TV3#930 page 11 Parameter	Measured distance [m]	Mesh size [mm]
Section 1 - 1B1	22,28	200
Section 1 - 1A1	22,80	200
Section 1 - 1A2	22,80	200
Section 1 - 1B2	22,32	200
Section 1 - 1C1	22,85	120
Section 1 - 1C2	22,73	120
Section 2 - 2B1	2,91	160
Section 2 - 2A	2,82	160
Section 2 - 2B2	2,91	160
Section 2 - 2C1	2,83	120
Section 2 - 2C2	2,90	120
Section 3 - 3B1	2,89	120
Section 3 - 3A	2,75	120
Section 3 - 3B2	2,91	120
Section 3 - 3C	2,82	120
Section 4 - 4B1	7,90	80
Section 4 - 4A	7,76	80
Section 4 - 4B2	7,88	80
Section 4 - 4C	7,94	80
Section 5 - 5B1	5,87	60
Section 5 - 5A	5,87	60
Section 5 - 5B2	5,87	60
Section 5 - 5C	5,80	60
Section 6 - 6B1	11,64	40
Section 6 - 6A	11,57	40
Section 6 - 6B2	11,57	40
Section 6 - 6C	11,57	40
Section 7	7,48	20
Section 8	7,60	20

\* - mesh opening measured with a ruler, others measured with use of the ICES gauge,

\*\* - measured along selvedge's.



Manual TV3#930 page 13 Parameter	Measured distance [m]	
Head line extension Port.	3,98	
Head line wing section Port.	28,37	
Head line bossom section	2,60	
Head line wing section Stbd.	28,46	
Head line extension Stbd.	4,00	
Fishing line extension Port.	1,30	
Fishing line wing section Port.	29,80	
Fishing line bossom section	1,66	
Fishing line wing section Stbd.	29,35	
Fishing line extension Stbd.	1,34	
Lower wing line Port.	2,70	
Lower wing line Stbd.	2,70	
Upper wing line Port.	2,63	
Upper wing line Stbd.	2,65	
Lower side line Port	2,10	
Lower side line Stbd.	2,08	
Upper side line Port	2,06	
Upper side line Stbd.	2,07	
Side line extension Port	4,00	
Side line Extension Stbd.	4,00	
Manual TV3#930 page 8/12 Parameter	Port	Stbd
Backstrop	8,00	8,00
Sweep	75,00	75,00
Chain sweep	3,01	3,02
Lower bridle	27,50	27,50
Lower extension	4,02	4,03
Chain for adjustment of upper bridle	0,30	0,30
Upper bridle	27,50	27,50
Headline extension	4,00	4,00
Floats 25pcs x 280mm		
Chain for adjustment of foot rope	8links x 0,08m	8links x 0,08m

The cod bottom (ground) trawl type TV-3#930:

- bridles with the top and centre combirope diameter of 18 mm, and the bottom wire with the length of 27,5 m and diameter of 16 mm and with the 50 mm diameter rubber discs,
- sweeps combirope with the length of 75 m and diameter of 40 mm,
- trawl lines with the maximum length of 520 m and the diameter of 18 mm.

**Table 6.1.8. Results of the Polish fishing gear check-up (Trawl No. 3). Check of the TV-3#930 STANDARD GEAR used during the BITS since 2000.**

Table of gear data

Type of fishing gear	TV3#930 heavy rigged No. 3	
Nation	Poland/used by Latvia during BITS surveys	
Date of measurements	08.03.2017	
Name of operators		
Number of realized hauls	over 400, permanently used	
Comments concerning the use		
Manual TV3#930 page 11 Parameter	Measured distance [m]	Mesh size [mm]
Section 1 - 1B1	22,03	200
Section 1 - 1A1	22,03	200
Section 1 - 1A2	22,06	200
Section 1 - 1B2	22,06	200
Section 1 - 1C1	22,07	120
Section 1 - 1C2	22,06	120
Section 2 - 2B1	2,92	160
Section 2 - 2A	2,72	160
Section 2 - 2B2	2,93	160
Section 2 - 2C1	2,95	120
Section 2 - 2C2	2,94	120
Section 3 - 3B1	2,89	120
Section 3 - 3A	2,86	120
Section 3 - 3B2	2,91	120
Section 3 - 3C	2,95	120
Section 4 - 4B1	7,82	80
Section 4 - 4A	7,92	80
Section 4 - 4B2	7,83	80
Section 4 - 4C	8,13	80
Section 5 - 5B1	5,85	60
Section 5 - 5A	5,93	60
Section 5 - 5B2	5,81	60
Section 5 - 5C	6,02	60
Section 6 - 6B1	11,56	40
Section 6 - 6A	11,66	40
Section 6 - 6B2	11,59	40
Section 6 - 6C	11,57	40
Section 7	7,76	20
Section 8	7,85	20

\* - mesh opening measured with a ruler, others measured with use of the ICES gauge,

\*\* - measured along selvedge's.

Manual TV3#930 page 13 Parameter	Measured distance [m]	
Head line extension Port.	4,03	
Head line wing section Port.	28,49	
Head line bossom section	2,60	
Head line wing section Stbd.	28,42	
Head line extension Stbd.	4,03	
Fishing line extension Port.	0,98	
Fishing line wing section Port.	29,86	
Fishing line bossom section	1,72	
Fishing line wing section Stbd.	29,93	
Fishing line extension Stbd.	0,98	
Lower wing line Port.	2,74	
Lower wing line Stbd.	2,73	
Upper wing line Port.	2,66	
Upper wing line Stbd.	2,69	
Lower side line Port	2,19	
Lower side line Stbd.	2,19	
Upper side line Port	2,19	
Upper side line Stbd.	2,19	
Side line extension Port	3,96	
Side line Extension Stbd.	3,97	
Manual TV3#930 page 8/12 Parameter	Port	Stbd
Backstop	8,00	8,00
Sweep	75,00	75,00
Chain sweep	3,01	3,02
Lower bridle	27,50	27,50
Lower extension	4,02	4,03
Chain for adjustment of upper bridle	0,30	0,30
Upper bridle	27,50	27,50
Headline extension	4,00	4,00
Floats 25pcs x 280mm		
Chain for adjustment of foot rope	8links x 0,08m	8links x 0,08m

The cod bottom (ground) trawl type TV-3#930:

- bridles with the top and centre combirope diameter of 18 mm, and the bottom wire with the length of 27,5 m and diameter of 16 mm and with the 50 mm diameter rubber discs,
- sweeps combirope with the length of 75 m and diameter of 40 mm,
- trawl lines with the maximum length of 520 m and the diameter of 18 mm.

**Table 6.1.9. Results of the Russian fishing gear (TV-3L) check-up (Trawl No. 4).**

Check list for trawl and for frame ropes of trawl Tag no. TV3-930 #

Results of the Russian fishing gear check-up (Trawl No. 4).

Check list for trawl TV3-930 #											
Section	Manual TV3-930 # page 57	Standard			Tag no. TV3-930 # -				Relative error [%]		Remarks
		Measured distance [m]	Mesh size [mm]	Number of meshes	Measured distance [m]	Mesh size [mm]	Mesh size mean	Number of meshes	Mesh size [mm]	Number of meshes	
1	1B1	22.10	200	111	22.15	200	200	110.8	0.0	0.2	
	1A1	22.10	200	111	22.15	200	200	110.8	0.0	0.2	
	1A2	22.10	200	111	22.15	200	200	110.8	0.0	0.2	
	1B2	22.10	200	111	22.15	200	200	110.8	0.0	0.2	
	1C1	22.68	120	189	22.70	120	120	189.2	0.0	0.1	
	1C2	22.68	120	189	22.70	120	120	189.2	0.0	0.1	
2	2B1	2.96	160	19	2.90	160	160	18.1	0.0	-2.0	
	2A	2.96	160	19	2.90	160	160	18.1	0.0	-2.0	
	2B2	2.96	160	19	2.90	160	160	18.1	0.0	-2.0	
	2C1	3.00	120	25	2.97	120	120	24.8	0.0	-1.0	
	2C2	3.00	120	25	2.97	120	120	24.8	0.0	-1.0	
	3B1	2.94	120	25	2.90	120	120	24.2	0.0	-1.4	
3	3A	2.94	120	25	2.90	120	120	24.2	0.0	-1.4	
	3B2	2.94	120	25	2.90	120	120	24.2	0.0	-1.4	
	3C	3.00	120	25	3.00	120	120	25.0	0.0	0.0	
	4B1	7.92	80	99	7.80	80	80	97.5	0.0	-1.5	
4	4A	7.92	80	99	7.80	80	80	97.5	0.0	-1.5	
	4B2	7.92	80	99	7.80	80	80	97.5	0.0	-1.5	
	4C	8.00	80	100	7.90	80	80	98.8	0.0	-1.3	
	5B1	5.94	60	99	5.90	60	60	98.3	0.0	-0.7	
5	5A	5.94	60	99	5.90	60	60	98.3	0.0	-0.7	
	5B2	5.94	60	99	5.90	60	60	98.3	0.0	-0.7	
	5C	6.00	60	100	6.00	60	60	100.0	0.0	0.0	
	6B1	11.92	40	298	11.90	40	40	297.5	0.0	-0.2	
6	6A	11.92	40	298	11.90	40	40	297.5	0.0	-0.2	
	6B2	11.92	40	298	11.90	40	40	297.5	0.0	-0.2	
	6C	12.00	40	300	12.00	40	40	300.0	0.0	0.0	
Codend			20								
			20								
Mean mesh opening in codend (OMEGA mesh gauge): mm (n, n, n, n, n, n, n, n, n, n, n, n)											

Check list for frame ropes of trawl TV3-930 #			
Manual TV3-930 # page 59	Measured distance [m]		Remarks
	Standard	TV3-930 # -02	
Head line extension Port.	4.00	3.97	
Head line wing section Port.	28.50	28.50	
Head line bosom section	2.50	2.60	
Head line wing section Stbd.	28.50	28.50	
Head line extension Stbd.	4.00	3.97	
Fishing line extension Port.	0.95	0.90	
Fishing line wing section Port.	29.94	29.90	
Fishing line bosom section	1.68	1.68	
Fishing line wing section Stbd.	29.94	29.90	
Fishing line extension Stbd.	0.95	0.90	
Upper wing line Port.	2.70	2.75	
Upper wing line Stbd.	2.70	2.75	
Upper wing side Port.	2.15	2.20	
Upper wing side Stbd.	2.15	2.20	
Lower wing line Port.	2.75	2.80	
Lower wing line Stbd.	2.75	2.80	
Lower wing side Port.	2.20	2.30	
Lower wing side Stbd.	2.20	2.30	
Type of fishing gear: TV3-930 #			
Nation: Russia			
Date of measurements: 12.10.2016			
Name of operators: Senior trawl master - Lubochonskiy Egor F.			
Number of realized hauls: 4			
Comments concerning the use: The mesh size in the codend was 6.5 mm.			
The trawling depth and the net opening were controlled by a netsonde.			

## **Annex 6.2. Results of fish catches calibration experiments between the Danish old and new RV “Havfisker” and the German RV “Solea”**

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Danish specialists from the DTU-AQUA requested (16.06.2016) special attention at the WGBIFS/2017 meeting, focusing on the results of calibration of fish catch data, obtained by the Danish old and new RV “Havfisker”. The request was repeated (04.01.2017) by the ICES Secretariat.

The WGBIFS discussed possibly reason for having significant differences in the control-catches of the two vessels for flounder and cod however, not for plaice, and the potential problem in applying calibration factors for some species. It was argued that it was a result of variability in the data and that the possible inconsistency might be due to insufficient numbers of parallel hauls sets. Based on this it was argued that no calibration factors should be applied to any fish species. On the other hand, it was argued that the significant difference in cod catches (new RV “Havfisker” catch approximately two-times the catch of the old RV “Havfisker”) might be a source of significant bias in the time series if it was not considered. The distance between the doors in the new RV “Havfisker” setup is twice the distance in the old RV “Havfisker” setup and the herding effect might explain the difference in quantity of catches. What is more difficult to explain is - why some flatfish show significant differences (flounder) and some not (plaice) even though plaice has been caught in significant amounts.

The conclusion from the WGBIFS discussion was that the estimated calibration factors should be applied for cod and flounder for calculating of the indices for a period of 4-5 years and should then be re-evaluated based on the additional data obtained. Until the final decision is made, the factors should be applied to the data from the new RV “Havfisker” (see also Annex 4.A).

It is recommended that calibration factors as calculated is applied to the BITS catches of the new RV “Havfisker” (26HF) for the following species: cod and flounder. Other species are not affected.

Furthermore, WGBIFS concluded that there is significant difference between catching results obtained by the Danish old and new RV “Havfisker”, this leads to inconsistency between the results of the calibration trials (in 2009) between the old RV “Havfisker” and the German RV “Solea”, and the recent calibration experiment (in 2017), which both could conclude that there were no significant difference in the catchability. The newest calibration exercise between the new RV “Havfisker” and the RV “Solea” (27 February – 01 March 2017) include 12 parallel hauls made with the TV-3S, no formal analysis was made, and the result is considered as not fully valid (Annex 9 - A. Velasco et al. 2017). However, the initial conclusion from performed intercalibration experiment is as follow: “The statistical analyses showed that the hypothesis of same catchability of cod and flatfish by both involved research vessels, which use the same fishing gear, cannot be rejected”.