ESO 983

(for use
with ESO 984)

1983 CUSTOM RATE AND OPERATING COST ESTIMATES FOR NEW MACHINERY IN OHIO*

Revised and Adopted for Ohio

by

Allan E. Lines
Extension Economist
Department of Agricultural Economics
Ohio Cooperative Extension Service
The Ohio State University
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*Data prepared by: Fred J. Benson, Extension Economist-Farm Management and Jane Jergens, undergraduate assistant; both in the Department of Agricultural and Applied Economics at the University of Minnesota.

1983 Custom Rate and Operating Cost Estimates for New Machinery in Ohio*

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The suggested custom rates provided in the following tables have been calculated by formula from the most recent farm machinery, energy, and labor prices avaiable (see ESO-984 for estimated new costs for machinery). In times of stable price levels, surveys of market custom rates are a reasonable method for determining charges; however, in today's world of drastically changing costs, any survey is out of date before the summary is complete and made available. We feel that our method of estimating custom rates can provide reasonable estimates as a base for determining a negotiated rate between a purchaser and a supplier of custom services.

You can expect to pay slightly higher custom rates again this year. Although fuel and interest costs have decreased from last year's, there were some price increases in some types of machinery. However, some types of machinery decreased in price. New equipment prices were obtained from several regional sales offices of farm equipment manufacturers and these prices were averaged for each tractor or implement.

The items listed in the tables include a description of the implement, the tractor or combine base used with the implement, and the cash operating, total, and suggested custom rate costs on a per acre and per hour basis. Also included on a per acre or per hour basis are the estimated costs of overhead, hours of labor, repairs, maintenance, fuel, and lubrication.

Machine and Tractor Identification

The name of the implement and the size of the tractor or combine base is provided in columns one and two. A self-propelled implement such as a

swather will have three dashes (---) indicating that no tractor is used. Combines are presented slightly differently. The head of the combine is identified in the first column, and the size of the base unit is given in the second column. For example, the "COMBINE SM GRAIN MED" describes a medium-sized combine head used for harvesting small grains. The second column describes the base combine as a medium-sized unit. The medium-sized combine base is also used on the medium-sized soybean head and the four-row corn heads.

Cash Operating Costs

These costs, provided on a per hour and per acre basis, are estimates of the costs of fuel (diesel), oil, and repairs for the tractor and the implement as used for the particular function described. Labor cost estimates are not included in this figure.

Total Costs

Total costs provide estimates of all costs associated with carrying out the particular function. These costs include cash operating costs, labor, and overhead costs for the tractor and implement. Labor is valued at $5.90 per hour for unskilled labor and $8.40 per hour for skilled labor.

Suggested Custom Rates

The suggested custom rate values include an additional 20 percent over the total cost figures. This margin provides a profit to the custom operator and a return for the risk and travel expenses involved. Many times a custom operator will cover more acres annually than a commercial farmer. Therefore, for popular custom services the overhead costs may be spread over more acres and hours, thereby reducing the total costs.

Overhead Cost Per Acre

The overhead cost per acre is the total annual overhead cost of the tractor and implement on a per acre basis typical of a commercial farmer.

Labor Hours Per Acre

This represents an estimate of the required hours of labor on one acre with a specific machine. It includes a measure for travel and set up time as well as direct use machine field time.

Repair and Maintenance Per Acre

This is an estimate on a per acre basis for the average cost of repairs and maintenance of the tractor and implement as used on one acre.

Fuel and Lube Per Acre

This is an estimate of fuel (diesel) and oil costs per acre where diesel fuel is estimated to cost $1.12 per gallon and oil cost is calculated to be ten percent of the fuel costs.

Custom rates will vary from area to area and are always a function of the demand for and the supply of those custom services. The charges for the services may be determined in different ways for different situations. For example, if two farmers are trading services they may price their services on a cash cost basis. This assumes that the value of their labor and machinery overhead would be approximately the same. Cash cost and labor expenses could only be expected to be recouped if they were being paid by an insurance settlement to replant a crop. The assumption here is that the ownership costs already are considered as normal production costs.

If farmers trading machinery use consider their inputs, labor, and machinery overhead unequal, they should base their rates on a total cost or a suggested custom rate basis.

The following tables are the results of the projections for 1983.

TILLAGE EQUIPMENT

MACHINE	TRACTOR HP	SUGGESTED CUSTOM RATES: CASH OPERATING COSTS PER HOUR	CASH OPERATING COSTS PER ACRE	TOTAL COSTS PER HOUR	TOTAL COSTS PER ACRE	COST PLUS PER HOUR	COST PLUS PER ACRE	OVERHEAD COST/ACRE	MANHOURS /ACRE	REPAIR+MAINT. /ACRE	FUEL+LUBE /ACRE
MB PLOW 2-16	40	4.50	3.87	17.47	15.05	20.78	17.90	5.99	.879	1.33	2.55
MB PLOW 3-16	60	6.65	3.81	22.55	12.92	26.78	15.34	5.66	.584	1.27	2.54
MB PLOW 4-16	75	10.29	4.42	35.71	15.35	41.94	18.03	8.34	.439	2.04	2.38
MB PLOW 5-16	100	13.73	4.72	44.59	15.34	52.45	18.05	8.55	.351	2.18	2.54
MB PLOW 6-16	120	16.29	4.67	49.72	14.24	58.12	16.65	7.85	.292	2.13	2.54
MB PLOW 7-16	140	18.65	4.58	55.17	13.55	64.67	15.89	7.49	.251	2.04	2.54
MB PLOW 8-16	160	22.02	4.73	63.19	13.59	74.17	15.94	7.56	.219	2.19	2.54
MB PLOW 9-18	225	27.88	4.73	78.40	13.31	92.01	15.62	7.55	.173	1.91	2.82
MB PLOW 10-18	225	29.89	4.57	85.69	13.09	100.98	15.43	7.61	.156	2.03	2.54
MB PLOW 12-18	275	35.13	4.47	97.31	12.39	116.20	14.79	7.15	.130	1.88	2.59
CHISEL PLOW 10 FT	75	8.41	1.93	28.83	6.61	32.70	7.49	3.30	.234	.66	1.27
CHISEL PLOW 15 FT	120	13.46	2.06	40.33	6.16	47.82	7.31	3.18	.156	.70	1.36
CHISEL PLOW 17 FT	140	15.57	2.10	45.35	6.11	53.61	7.23	3.20	.138	.70	1.40
CHISEL PLOW 20 FT	160	18.48	2.12	52.54	6.02	61.80	7.08	3.21	.117	.76	1.36
CHISEL PLOW WING 24	225	24.87	2.37	74.91	7.15	88.86	8.48	4.20	.097	.79	1.59
CHISEL PLOW WING 29	250	27.72	2.19	82.63	6.53	97.55	7.71	3.86	.081	.73	1.46
CHISEL PLOW WING 35	300	33.28	2.18	97.91	6.41	116.11	7.60	3.84	.067	.73	1.45
FIELD CULTIVATOR 12	75	8.30	1.37	27.07	4.47	31.13	5.14	2.10	.168	.45	.91
FIELD CULTIVATOR 18	100	12.00	1.37	37.08	4.25	44.48	5.10	2.18	.117	.53	.85
FIELD CULTIVATOR 28	160	19.26	1.42	53.12	3.91	63.74	4.69	2.05	.075	.55	.87
FIELD CULTIVATOR 37	225	25.32	1.41	67.31	3.75	80.79	4.50	2.33	.001	.48	.93
FIELD CULTIVATOR 50	250	30.06	1.24	88.67	3.66	117.00	4.83	2.17	.042	.48	.76
DISK 10 FT	60	7.50	1.55	28.25	5.83	33.90	6.99	3.04	.210	.63	.91
DISK 16 FT	75	10.25	1.32	38.78	5.00	46.55	6.00	2.90	.131	.61	.71
DISK 17 FT	75	11.21	1.36	43.87	5.32	52.62	6.38	3.23	.124	.69	.67
DISK 20 FT	100	14.60	1.51	53.10	5.48	63.71	6.57	3.35	.105	.74	.76
DISK 21 FT	100	15.00	1.47	55.13	5.41	66.11	6.49	3.35	.100	.75	.73
DISK 24 FT	120	17.39	1.49	61.55	5.29	73.70	6.33	3.28	.088	.73	.76
DISK 28 FT	140	19.96	1.47	68.98	5.08	82.72	6.09	3.17	.075	.71	.76
DISK 32 FT	160	22.94	1.48	76.42	4.93	91.50	5.90	3.06	.066	.72	.76
DISK 40 FT	180	27.57	1.42	94.82	4.89	126.76	6.54	3.16	.053	.74	.69
DISK OFFSET 14 FT	140	17.27	2.83	54.40	8.91	65.31	10.69	5.09	.167	1.13	1.69
DISK OFFSET 16 FT	160	19.82	2.84	59.60	8.54	71.46	10.24	4.84	.146	1.14	1.69
DISK OFFSET 18 FT	180	22.00	2.80	64.74	8.24	77.55	9.87	4.68	.130	1.11	1.69
DISK-WING OFFSET 21	225	27.04	2.95	86.75	9.47	103.96	11.35	5.86	.111	1.14	1.81
DISK-WING OFFSET 23	225	27.60	2.75	89.81	8.95	107.54	10.72	5.60	.102	1.09	1.66
LANDPLANE 45-12 FT	180	18.76	2.93	59.61	9.31	71.54	11.18	5.39	.169	.85	2.08
LANDPLANE 55-14 FT	225	23.15	2.89	90.62	11.33	108.75	13.59	7.64	.135	.81	2.08
LANDPLANE 70-14 FT	225	23.29	3.12	93.59	12.53	112.31	15.04	8.56	.145	.89	2.23
SPRINGTOOTH DRAG 30	60	6.55	.41	37.40	2.34	44.88	2.80	1.53	.067	.13	.28
SPRINGTOOTH DRAG 48	75	8.41	.28	45.13	1.49	54.13	1.79	1.00	.036	.09	.18

PLANTING EQUIPMENT

SUGGESTED CUSTOM RATES

MACHINE	TRACTOR HP	CASH OPERATING COSTS PER HOUR	CASH OPERATING COSTS PER ACRE	TOTAL COSTS PER HOUR	TOTAL COSTS PER ACRE	COST PLUS PER HOUR	COST PLUS PER ACRE	OVERHEAD COST/ACRE	MANHOURS /ACRE	REPAIR+MAINT. /ACRE	FUEL+LUBE /ACRE
CORN PLANTER 4-36	40	10.59	2.31	48.79	10.65	61.53	13.43	6.18	.253	1.67	.65
CORN PLANTER 6-36	60	15.79	2.30	67.41	9.81	84.84	12.35	6.08	.169	1.65	.65
CORN PLANTER 6-30	60	14.66	2.56	62.37	10.89	80.31	14.02	6.61	.203	1.79	.77
CORN PLANTER 8-30	75	20.69	2.71	86.02	11.26	112.34	14.71	7.26	.152	1.98	.73
CORN PLANTER 12-30	100	31.25	2.73	126.66	11.06	172.54	15.06	7.47	.101	2.08	.65
MIN-TIL PLANTER 4-36	60	13.30	3.73	56.25	15.78	67.43	18.92	9.29	.326	2.49	1.24
MIN-TIL PLANTER 6-36	75	17.97	3.36	73.90	13.83	91.79	17.17	8.62	.217	2.33	1.04
MIN-TIL PLANTER 6-30	75	17.49	3.93	71.74	16.10	87.78	19.71	9.96	.260	2.68	1.24
MIN-TIL PLANTER 8-30	100	24.83	4.18	97.82	16.47	119.79	20.17	10.63	.195	2.94	1.24
MIN-TIL PLANTER 8-36	100	25.55	3.58	101.02	14.17	137.05	19.23	9.21	.163	2.55	1.04
MIN-TIL PLANTER 12-3	160	38.08	4.27	140.38	15.76	220.25	24.72	10.38	.130	2.95	1.33
POTATO FILLER	---	1.45	.25	31.17	5.43	34.53	6.01	5.17	0	.23	.02
POTATO ROW MARKER 4R	120	14.23	2.86	68.63	13.78	68.20	13.70	8.81	.249	1.08	1.78
POTATO ROW MARKER 6R	140	16.77	2.25	83.63	11.20	96.21	12.88	7.54	.166	.86	1.39
POTATO PLANTER 4 ROW	120	21.28	5.56	96.43	25.18	95.36	24.90	14.96	.647	3.24	2.32
POTATO PLANTER 6 ROW	140	25.99	4.52	116.33	20.25	133.98	23.32	12.62	.432	2.72	1.80
BEET PLANTER 12 ROW	100	22.46	4.81	98.02	21.01	117.63	25.21	13.93	.266	3.23	1.58
GRAIN DRILL PW 12 FT	40	8.70	1.82	37.00	7.74	44.73	9.36	3.95	.232	1.20	.62
GRAIN DRILL PW 14 FT	40	9.04	1.62	38.35	6.88	45.86	8.23	3.57	.199	1.09	.53
GRAIN DRILL PW 16 FT	60	11.42	1.79	44.12	6.93	52.93	8.31	3.65	.174	1.10	.70
GRAIN DRILL PW 20 FT	75	14.80	1.86	55.00	6.91	65.88	8.27	3.86	.139	1.16	.70
GRAIN DRILL PW 24 FT	75	15.77	1.65	58.87	6.16	70.42	7.37	3.52	.116	1.07	.58
GRAIN DRILL PW 28 FT	100	21.66	1.94	76.88	6.90	91.90	8.24	4.11	.100	1.28	.66

MISCELLANEOUS

SUGGESTED CUSTOM RATES

MACHINE	TRACTOR HP	CASH OPERATING COSTS PER HOUR	CASH OPERATING COSTS PER ACRE	TOTAL COSTS PER HOUR	TOTAL COSTS PER ACRE	COST PLUS PER HOUR	COST PLUS PER ACRE	OVERHEAD COST/ACRE	MANHOURS /ACRE	REPAIR+MAINT. /ACRE	FUEL+LUBE /ACRE
LIGHT TRUCK	---	9.34		20.62		26.99		3.55	.660	4.54	1.63
MEDIUM TRUCK	---	14.98		30.14		40.03		6.12	.660	7.85	2.03
HEAVY TRUCK	---	24.96		46.21		61.84		10.13	.660	13.08	3.39
MANURE SPREADER 150	75	7.66		28.64		35.62		4.29	.292	.61	1.59
MANURE SPREADER 225	100	10.83		38.94		48.66		6.33	.292	.99	2.12
MANURE SPREADER 400	100	11.20		44.96		64.20		5.96	.219	.82	1.59
GRAVITY BOX 185 BU	40	4.17		18.19		22.60		4.91	.604	.74	1.79
GRAVITY BOX 240 BU	40	4.19		18.42		22.93		5.03	.604	.75	1.79
HAY WAGON	40	4.30		22.84		27.52		1.78	.529	.36	.78
FORAGE WAGON 14 FT	40	4.61		23.30		29.82		7.73	.604	1.00	1.79
FORAGE WAGON 16 FT	40	4.65		23.55		30.17		7.86	.604	1.02	1.79

MAINTENANCE EQUIPMENT

SUGGESTED CUSTOM RATES

MACHINE	TRACTOR HP	CASH OPERATING COSTS PER HOUR	CASH OPERATING COSTS PER ACRE	TOTAL COSTS PER HOUR	TOTAL COSTS PER ACRE	COST PLUS PER HOUR	COST PLUS PER ACRE	OVERHEAD COST/ACRE	MANHOURS /ACRE	REPAIR+MAINT. /ACRE	FUEL+LUBE /ACRE
CULTIVATOR 4-36	40	4.72	1.01	19.55	4.20	23.14	4.97	1.87	.223	.38	.64
CULTIVATOR 6-36	60	7.13	1.02	26.41	3.78	31.25	4.48	1.88	.149	.39	.64
CULTIVATOR 6-30	60	6.80	1.17	24.54	4.22	29.36	5.05	1.99	.179	.41	.76
CULTIVATOR 8-30	75	8.89	1.15	31.34	4.04	37.55	4.84	2.10	.134	.43	.71
CULTIVATOR 12-30	140	16.89	1.45	52.23	4.49	70.72	6.08	2.51	.089	.56	.89
RIDGE-CULT 4-36	75	9.15	1.97	32.62	7.01	38.42	8.25	3.71	.226	.77	1.19
RIDGE CULT 6-36	100	12.83	1.84	43.30	6.20	54.60	7.82	3.48	.150	.78	1.06
RIDGE CULT 6-30	100	12.78	2.20	42.88	7.37	51.26	8.81	4.12	.179	.93	1.27
RIDGE CULT 8-36	100	13.65	1.47	47.77	5.13	65.46	7.03	3.00	.113	.67	.79
RIDGE CULT 8-30	100	13.56	1.75	47.17	6.08	60.14	7.75	3.54	.134	.79	.95
RIDGE-CULT 12-30	160	21.27	1.77	68.24	5.52	98.04	7.93	3.23	.097	.76	.96
ROTARY HOE 16	40	4.69	.43	27.76	2.56	33.12	3.05	1.58	.092	.16	.27
POTATO CULT. 4 ROW	75	8.78	1.43	27.76	4.53	33.25	5.43	2.10	.170	.53	.90
POTATO CULT. 6 ROW	75	9.07	.99	29.20	3.18	35.07	3.82	1.52	.113	.38	.60
BEET CULT. 12 ROW	100	12.08	2.01	47.42	7.90	56.90	9.48	4.87	.173	.78	1.23
BEET THINNER 6 ROW	100	13.85	6.59	51.56	24.55	61.87	29.46	13.75	.495	3.07	3.52
BEET THINNER 12 ROW	120	19.25	4.58	74.28	17.69	89.13	21.22	11.00	.248	2.47	2.11
SPRAYER 30 FT	40	6.32	.45	29.21	2.06	35.01	2.47	.87	.088	.24	.21
SPRAYER 50 FT	60	8.99	.38	33.56	1.42	40.25	1.70	.59	.053	.19	.19
SPRAYER HI PRES 50FT	60	17.39	.74	59.38	2.51	71.18	3.01	1.33	.053	.55	.19
ANHYDROUS APPLICATOR	120	18.44	1.45	81.23	6.38	89.94	7.07	4.32	.105	.75	.70
FERTILIZER SPRDR 40	60	7.11	.18	51.59	1.33	157.13	4.05	.94	.034	.07	.11
SPREADER 12 FT	60	7.10	1.63	29.44	6.75	35.22	8.07	3.77	.229	.61	1.02

HARVESTING EQUIPMENT

SUGGESTED CUSTOM RATES

MACHINE	TRACTOR HP	CASH OPERATING COSTS PER HOUR	CASH OPERATING COSTS PER ACRE	TOTAL COSTS PER HOUR	TOTAL COSTS PER ACRE	COST PLUS PER HOUR	COST PLUS PER ACRE	OVERHEAD COST/ACRE	MANHOURS /ACRE	REPAIR+MAINT. /ACRE	FUEL+LUBE /ACRE
MOWER-COND 9 FT	60	8.50	2.08	34.17	8.35	42.38	10.36	4.69	.269	.99	1.08
SWATHER-COND. 12 FT	---	6.89	1.26	38.93	7.14	46.46	8.52	4.79	.183	.59	.68
SWATHER-COND. 15 FT	---	7.00	1.03	40.09	5.88	47.84	7.02	3.99	.147	.48	.54
SWATHER 12 FT	---	9.21	1.58	59.64	10.25	71.05	12.21	7.65	.172	.95	.64
SWATHER 15 FT	---	10.27	1.41	69.29	9.53	82.26	11.31	7.30	.138	.90	.51
SWATHER 18 FT	---	10.62	1.22	72.64	8.32	87.00	9.97	6.43	.115	.79	.42
SWATHER 20 FT	---	10.48	1.08	71.54	7.38	85.49	8.82	5.69	.103	.70	.38
1 TON STACKER	60	9.05	2.18	31.96	7.71	37.61	9.07	3.25	.268	1.11	1.07
3 TON STACKER	75	14.75	3.05	46.29	9.57	54.08	11.18	4.57	.230	1.90	1.15
6 TON STACKER	100	22.81	4.13	60.69	10.98	71.09	12.86	5.15	.201	2.79	1.34
BALER PTO TWINE	40	6.67	1.76	28.82	7.62	32.50	8.59	3.36	.294	.98	.78
ROUND BALER 1500 LB	60	9.50	2.05	33.15	7.15	38.63	8.33	3.69	.239	1.09	.96
ROUND BALER 1000 LB	60	8.63	2.86	29.86	9.91	33.91	11.25	4.87	.368	1.39	1.47
ROTARY MOWER	40	4.79	1.76	18.60	6.82	22.22	8.15	2.90	.367	.67	1.08
RAKE (HYD)	40	5.07	1.45	18.53	5.31	25.50	7.30	2.16	.286	.61	.85
FORAGE HARV. 1 ROW	60	9.37	9.91	45.01	47.60	52.72	55.76	27.71	1.174	5.22	4.69
FORAGE HARV. 2 ROW	100	14.78	8.93	61.19	36.98	71.03	42.93	22.35	.671	4.46	4.47
FOR HARV 2 ROW SP	---	29.66	14.56	121.34	59.59	138.27	67.90	40.39	.545	10.09	4.48
FOR HAR 3 ROW SP	---	33.26	10.89	134.02	43.88	151.66	49.65	29.90	.363	7.46	3.43
FORAGE BLOWER LG	60	6.40	6.40	28.43	28.43	24.52	24.52	16.13	1.000	1.97	4.44
CORN PICKER 2-38	40	9.27	6.22	39.94	26.83	50.24	33.74	14.27	.745	4.24	1.99
PICKER-SHELLER 2-ROW	60	11.44	7.69	44.91	30.16	56.35	37.84	16.14	.745	4.71	2.98
CO INE SM GRAIN SML	SML	27.60	6.74	69.81	17.04	82.41	20.12	8.00	.271	4.93	1.80
CO INE SM GRAIN MED	MED	35.54	7.52	87.81	18.57	103.98	22.00	9.06	.235	5.64	1.88
CO INE SM GRAIN LGE	LRG	42.22	6.70	102.84	16.32	122.68	19.46	8.12	.176	5.00	1.70
CO INE SOYBEANS SML	SML	28.25	7.88	72.23	20.15	84.73	23.63	9.64	.310	5.82	2.06
CO INE SOYBEANS MED	MED	36.30	8.78	90.61	21.91	106.73	25.80	10.85	.268	6.63	2.14
COMBINE SOYBEAN LGE	LRG	42.81	8.62	105.03	21.16	124.17	25.02	10.63	.224	6.47	2 16
COMBINE CORN 3-30 SM	SML	30.53	17.22	75.76	42.74	88.44	49.89	20.19	.626	13.05	4.17
COMBINE CORN 2-38 SM	SML	28.87	19.39	71.42	47.96	84.13	56.50	22.24	.745	14.43	4.96
COMBINE CORN 3-38 SM	SML	30.68	13.66	76.14	33.91	90.60	40.35	16.05	.494	10.37	3.29
COMBINE CORN 4-36 MD	MED	40.11	14.14	97.88	34.51	115.87	40.85	17.04	.391	11.01	3.13
COMBINE CORN 4-30 MD	MED	39.85	15.33	97.17	37.37	115.56	44.44	18.42	.427	11.92	3.41
COMBINE CORN 6-30 LG	LRG	47.88	12.28	114.92	29.47	136.57	35.02	14.77	.285	9.53	2.75
COMBINE CORN 8-30 LG	LRG	50.66	10.72	122.23	25.86	144.90	30.65	13.14	.235	8.45	2.27
COMBINE CORN 12-30 J	JMB	69.04	9.74	154.37	21.77	194.90	27.49	11.90	.016	7.65	2.08
POTATO HVSTR SEED 2R	120	20.17	12.47	79.03	48.84	92.77	57.33	22.45	2.058	6.98	5.48
POTATO HRVSTR. 2 ROW	120	20.60	8.27	100.44	40.34	116.57	46.82	23.02	1.338	4.71	3.56
BEET LIFTER 4 ROW	100	15.80	4.56	93.27	26.92	111.26	32.11	19.64	.320	2.43	2.13
BEET LIFTER 6 ROW	120	19.72	3.79	120.12	23.10	143.25	27.55	17.49	.213	2.09	1.71
BEET TOPPER 4 ROW	75	10.99	2.58	55.61	13.04	65.90	15.45	8.47	.234	1.28	1.30
BEET TOPPER 6 ROW	100	15.45	2.41	74.79	11.69	89.04	13.91	7.94	.156	1.26	1.16
BEET WAGON 8 TON	75	7.94	2.29	37.43	10.80	44.74	12.91	6.81	.289	.69	1.60

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