

Altshuller's Table of Contradictions

1. Formulate design problem using Altshuller's [Parameters](#).
 2. Look up feature to improve and undesired result in the Table of Contradictions.
 3. In intersecting cells, look up [Inventive Principles](#) to apply.
-

Features to Improve #1-20 vs. Undesired Result #1-13.

Click [here](#) to return to TRIZ home page to look up Inventive Principles.

Undesired Result (Conflict) Feature to Improve		1	2	3	4	5	6	7	8	9	10	11	12	13
		Weight of moving object	Weight of non-moving object	Length of moving object	Length of non-moving object	Area of moving object	Area of non-moving object	Volume of moving object	Volume of non-moving object	Speed	Force	Tension, pressure	Shape	Stability of object
1	Weight of moving object			15,8, 29,34		29,17, 38,34		29,2, 40,28		2,8, 15,38	8,10, 18,37	10,36, 37,40	10,14, 35,40	1,35, 19,39
2	Weight of non-moving object				10,1, 29,35		35,30, 13,2		5,35, 14,2		8,10, 19,35	13,29, 10,18	13,10, 29,14	26,39, 1,40
3	Length of moving object	8,15, 29,34				15,17, 4		7,17, 4,35		13,4, 8	17,10, 4	1,8, 35	1,8, 10,29	1,8, 15,34
4	Length of non-moving object		35,28, 40,29				17,7, 10,40		35,8, 2,14		28,10	1,14, 35	13,14, 15,7	39,37, 35
5	Area of moving object	2,17, 29,4		14,15, 18,4				7,14, 17,4		29,30, 4,34	19,30, 35,2	10,15, 36,28	5,34, 29,4	11,2, 13,39
6	Area of non-moving object		30,2, 14,18		26,7, 9,39						1,18, 35,36	10,15, 36,37		2,38
7	Volume of moving object	2,26, 29,40		1,7, 4,35		1,7, 4,17				29,4, 38,34	15,35, 36,37	6,35, 36,37	1,15, 29,4	28,10, 1,39
8	Volume of non-moving object		35,10, 19,14	19,14	35,8, 2,14						2,18, 37	24,35	7,2, 35	34,28, 35,40
9	Speed	2,28, 13,38		13,14, 8		29,30, 34		7,29, 34			13,28, 15,19	6,18, 38,40	35,15, 18,34	28,33, 1,18
10	Force	8,1, 37,18	18,13, 1,28	17,19, 9,36	28,10	19,10, 15	1,18, 36,37	15,9, 12,37	2,36, 18, 37	13,28, 15,12		18,21, 11	10,35, 40,34	35,10, 21
11	Tension, pressure	10,36, 37,40	13,29, 10,18	35,10, 36	35,1, 14,16	10,15, 36,25	10,15, 35,37	6,35, 10	35,24	6,35, 36	36,35, 21		35,4, 15,10	35,33, 2,40
12	Shape	8,10, 29,40	15,10, 26,3	29,34, 5,4	13,14, 10,7	5,34, 4,10		14,4, 15,22	7,2, 35	35,15, 34,18	35,10, 37,40	34,15, 10,14		33,1, 18,4
13	Stability of object	21,35, 2,39	26,39, 1,40	13,15, 1,28	37	2,11, 13	39	28,10, 19,39	34,28, 35,40	33,15, 28,18	10,35, 21,16	2,35, 40	22,1, 18,4	
14	Strength	1,8, 40,15	40,26, 27,1	1,15, 8,35	15,14, 28,26	3,34, 40,29	9,40, 28	10,15, 14,7	9,14, 17,15	8,13, 26,14	10,18, 3,14	10,3, 18,40	10,30, 35,40	13,17, 35
15	Durability of moving object	19,5, 34,31		2, 19, 9		3,17, 19		10,2, 19,30		3, 35, 5	19,2, 16	19,3, 27	14,26, 28,25	13,3, 35
16	Durability of non-moving object		6,27, 19,16		1,10, 35				35,34, 38					39,3, 35,23
17	Temperature	36,22, 6,38	22,35, 32	15,19, 9	15,19, 9	3,35, 39,18	35,38	34,39, 40,18	35,6, 4	2,28, 36,30	35,10, 3,21	35,39, 19,2	14,22, 19,32	1,35, 32
18	Brightness	19,1, 32	2,35, 32	19,32, 16		19,32, 26		2,13, 10		10,13, 19	26,19, 6		32,30	32,3, 27
19	Energy spent by moving object	12,18, 28,31		12,28		15,19, 25		35,13, 18		8,15, 35	16,26, 21,2	23,14, 25	12,2, 29	19,13, 17,24
20	Energy spent by non-moving object		19,9, 6,27								36,37			27,4, 29,18

Features to Improve #1-20 vs. Undesired Result #14-26.

Click [here](#) to return to TRIZ home page to look up Inventive Principles..

Feature to Improve \ Undesired Result (Conflict)		14	15	16	17	18	19	20	21	22	23	24	25	26	
		Strength	Durability of moving object	Durability of non-moving object	Temperature	Brightness	Energy spent by moving object	Energy spent by non-moving object	Power	Waste of energy	Waste of substance	Loss of information	Waste of time	Amount of substance	
1	Weight of moving object	28,27, 18,40	5,34, 31,35		6,20, 4,38	19,1, 32	35,12, 34,31		12,36, 18,31	6, 2, 34,19	5,35, 3,31	10,24, 35	10,35, 20,28	3,26, 18,31	
2	Weight of non-moving object	28,2, 10,27		2,27, 19,6	28,19, 32,22	19,32, 35		18,19, 28,1	15,19, 18,22	18,19, 28,15	5, 8, 13,30	10,15, 35	10,20, 35,26	19,6, 18,26	
3	Length of moving object	8,35, 29,34	19		10,15, 19	32	8,35, 24			1,35	7, 2, 35,39	4,29, 23,10	1, 24	15, 2, 29	29, 35
4	Length of non-moving object	15,14, 28,26		1,40, 35	3,35, 38,18	3,25			12,8	6,28	10,28, 24,35	24,26	30,29, 14		
5	Area of moving object	3,15, 40,14	6,3		2,15, 16	15,32, 19,13	19,32		19,10, 32,18	15,17, 30,26	10,35, 2,39	30,26	26, 4	29,30, 6,13	
6	Area of non-moving object	40		2,10, 19,30	35,39, 38				17,32	17,7, 30	10,14, 18,39	30,16	10,35, 4,18	2, 18, 40,4	
7	Volume of moving object	9,14, 15,7	6,35, 4		34,39, 10,18	2,13, 10	35		35,6, 13,18	7,15, 13,16	36,39, 34,10	2, 22	2, 6, 34,10	29,30, 7	
8	Volume of non-moving object	9,14, 17,15		35,34, 38	35, 6, 4				30,6		10,39, 35,34		35,16, 32,18	35, 3	
9	Speed	8,3, 26,14	3,19, 35,5		28,30, 36,2	10,13, 19	8,15, 35,38		19,35, 38,2	14,20, 19,35	10,13, 28,38	13, 26		18,19, 29,38	
10	Force	35,10, 14,27	19,2		35,10, 21		19,17, 10	1,16, 36,37	19,35, 18,37	14,15	8,35, 40,5		10,37, 36	14,29, 18,36	
11	Tension, pressure	9,18, 3,40	19,3, 27		35,39, 19,2		14,24, 10,37		10,35, 14	2,36, 25	10,36, 3,37		37,36, 4	10,14, 36	
12	Shape	30,14, 10,40	14,26, 9,25		22,14, 19,32	13,15, 32	2,6, 34,14		4, 6, 2	14	35,29, 3, 5		14,10, 34,17	36, 22	
13	Stability of object	17,9, 15	13,27, 10,35	39,3, 35,23	35,1, 32	32,3, 27,15	13,19	27,4, 29,18	32,35, 27,31	14,2, 39,6	2, 14, 30,40		35,27	15,32, 35	
14	Strength		27,3, 26		30,10, 40	35,19	19,35, 10	35	10,26, 35,28	35	35,28, 31,40		29,3, 28,10	29,10, 27	
15	Durability of moving object	27,3, 10			19,35, 39	2,19, 4,35	28,6, 35,18		19,10, 35,38		28,27, 3,18	10	20,10, 28,18	3, 35, 10,40	
16	Durability of non-moving object				19,18, 36,40				16		27,16, 18,38	10	28,20, 10,16	3, 35, 31	
17	Temperature	10,30, 22,40	19,13, 39	19,18, 36,40		32,30, 21,16	19,15, 3,17		2,14, 17,25	21,17, 35,38	21,36, 29,31		35,28, 21,18	3, 17, 30,39	
18	Brightness	35,19	2, 19, 6		32,35, 19		32,1, 19	32,35, 1,15	32	19,16, 1, 6	13, 1	1, 6	19, 1, 26,17	1, 19	
19	Energy spent by moving object	5,19, 9,35	28,35, 6,18		19,24, 3,14	2,15, 19			6,19, 37,18	12,22, 15,24	35,24, 18,5		35,38, 19,18	34,23, 16,18	
20	Energy spent by non-moving object	35				19,2, 35,32					28,27, 18,31			3, 35, 31	

Features to Improve #1-20 vs. Undesired Result #27-39.

Click [here](#) to return to TRIZ home page to look up Inventive Principles..

Feature to Improve \ Undesired Result (Conflict)		27	28	29	30	31	32	33	34	35	36	37	38	39
		Reliability	Accuracy of measurement	Accuracy of manufacturing	Harmful factors acting on object	Harmful side effects	Manufacturability	Convenience of use	Repairability	Adaptability	Complexity of device	Complexity of control	Level of automation	Productivity
1	Weight of moving object	3, 11, 1,27	28,27, 35,26	28,35, 26,18	22,21, 18,27	22,35, 31,39	27,28, 1,36	35,3, 2,24	2,27, 28,11	29,5, 15,8	26,30, 36,34	28,29, 26,32	26,35, 18,19	35,3, 24,37
2	Weight of non-moving object	10,28, 8, 3	18,26, 28	10,1, 35,17	2, 19, 22,37	35,22, 1,39	28, 1, 9	6,13, 1, 32	2,27, 28,11	19,15, 29	1,10, 26,39	25,28, 17,15	2, 26, 35	1, 28, 15,35
3	Length of moving object	10,14, 29,40	28,32, 4	10,28, 29,37	1,15, 17,24	17,15	1, 29, 17	15,29, 35,4	1, 28, 10	14,15, 1,16	1, 19, 26,24	35,1, 26,24	17,24, 26,16	14,4, 28,29
4	Length of non-moving object	15,29, 28	32,28, 3	2, 32, 10	1, 18		15, 17, 27	2, 25	3	1, 35	1, 26	26		30,14, 7,26
5	Area of moving object	29, 9	26,28, 32,3	2,32	22,33, 28,1	17,2, 18,39	13,1, 26,24	15,17, 13,16	15,13, 10,1	15, 30	14, 1, 13	2,36, 26,18	14,30, 28,23	10,26, 34,2
6	Area of non-moving object	32,35, 40,4	26,28, 32,3	2,29, 18,36	27,2, 39,35	22, 1, 40	40, 16	16, 4	16	15, 16	1, 18, 36	2,35, 30,18	23	10,15, 17,7
7	Volume of moving object	14, 1, 40,11	25,26, 28	25,28, 2,16	22,21, 27,35	17,2, 40,1	29, 1, 40	15,13, 30,12	10	15, 29	26, 1	29,26, 4	35,34, 16,24	10, 6, 2,34
8	Volume of non-moving object	2,35, 16		35,10, 25	34,39, 19,27	30,18, 35,4	35		1		1, 31	2, 17, 26		35,37, 10,2
9	Speed	11,35, 27,28	28,32, 1,24	10,28, 32,25	1,28, 35,23	2,24, 35,21	35,13, 8,1	32,28, 13,12	34,2, 28,27	15,10, 26	10,28, 4,34	3,34, 27,16	10, 18	
10	Force	3,35, 13,21	35,10, 23,24	28,29, 37,36	1,35, 40,18	1,3,3, 36,24	15,37, 18,1	1,28, 3,25	15, 1, 11	15,17, 18,20	26,35, 10,18	36,37, 10,19	2, 35	3,28, 35,37
11	Tension, pressure	10,13, 19,35	6, 28, 25	3, 35	22, 2, 37	2, 33, 27, 18	1, 35, 16	11	2	35	19, 1, 35	2, 36, 37	35, 24	10,14, 35,37
12	Shape	10,40, 16	28,32, 1	32,30, 40	22,1, 2, 35	35, 1	1,32, 17,28	32,15, 26	2, 13, 1	1, 15, 29	16,29, 1,28	15,13, 39	15, 1, 32	17,26, 34,10
13	Stability of object		13	18	35,24, 30,18	35,40, 27,39	35, 19	32,35, 30	2,35, 10,16	35,30, 34,2	2,35, 22,26	35,22, 39,23	1, 8, 35	23,35, 40,3
14	Strength	11, 3	3, 27, 16	3, 27	18,35, 37,1	15,35, 22,2	11,3, 10,32	32,40, 28,2	27,11, 3	15, 3, 32	2, 13, 28	27, 3, 15, 40	15	29,35, 10,14
15	Durability of moving object	11, 2, 13	3	3,27, 16,40	22,15, 33,28	21,39, 16,22	27, 1, 4	12, 27	29,10, 27	1, 35, 13	10,4, 29,15	19,29, 39,35	6, 10	35,17, 14,19
16	Durability of non-moving object	34,27, 6,40	10, 26, 24		17,1, 40,33	22	35, 10	1	1	2		25,34, 6,35	1	10,20, 16,38
17	Temperature	19,35, 3,10	32,19, 24	24	22,33, 35,2	22,35, 2,24	26, 27	26, 27	4, 10, 16	2,18, 27	2,17, 16	3,27, 35,31	26,2, 19,16	15,28, 35
18	Brightness		11,15, 32	3, 32	15, 19	35,19, 32,39	19,35, 28,26	28,26, 19	15,17, 13,16	15, 1, 1, 19	6, 32, 13	32, 15	2, 26, 10	2, 25, 16
19	Energy spent by moving object	19,21, 11,27	3, 1, 32		1,35, 6,27	2, 35, 6	28,26, 30	19, 35	1,15, 17,28	15,17, 13,16	2, 29, 27,28	35, 38	32, 2	12,28, 35
20	Energy spent by non-moving object	10,36, 23			10, 2, 22,37	19,22, 18	1, 4					19,35, 16,25		1, 6

Features to Improve #21-39 vs. Undesired Result #1-13.

Click [here](#) to return to TRIZ home page to look up Inventive Principle.

Feature to Improve \ Undesired Result (Conflict)		1	2	3	4	5	6	7	8	9	10	11	12	13
		Weight of moving object	Weight of non-moving object	Length of moving object	Length of non-moving object	Area of moving object	Area of non-moving object	Volume of moving object	Volume of non-moving object	Speed	Force	Tension, pressure	Shape	Stability of object
21	Power	8,36, 38,31	19,26, 17,27	1,10, 35,37		19,38	17,32, 13,38	35,6, 38	30,6, 25	15,35, 2	26,2, 36,35	22,10, 35	29,14, 2,40	35,32, 15,31
22	Waste of energy	15,6, 19,28	19,6, 18,9	7,2, 6,13	6,38, 7	15,26, 17,30	17,7, 30,18	7,18, 23	7	16,35, 38	36,38			14,2, 39,6
23	Waste of substance	35,6, 23,40	35,6, 22,32	14,29, 10,39	10,28, 24	35,2, 10,31	10,18, 39,31	1,29, 30,36	3,39, 18,31	10,13, 28,38	14,15, 18,40	3,36, 37,10	29,35, 3,5	2,14, 30,40
24	Loss of information	10,24, 35	10,35, 5	1,26	26	30,26	30,16		2,22	26,32				
25	Waste of time	10,20, 37,35	10,20, 26,5	15,2, 29	30,24, 14,5	26,4, 5,16	10,35, 17,4	2,5, 34,10	35,16, 32,18		10,37, 36,5	37,36, 4	4,10, 34,17	35,3, 22,5
26	Amount of substance	35,6, 18,31	27,26, 18,35	29,14, 35,18		15,14, 29	2,18, 40,4	15,20, 29		35,29, 34,28	35,14, 3	10,36, 14,3	35,14	15,2, 17,40
27	Reliability	3,8, 10,40	3,10, 8,28	15,9, 14,4	15,29, 28,11	17,10, 14,16	32,35, 40,4	3,10, 14,24	2,35, 24	21,35, 11,28	8,28, 10,3	10,24, 35,19	35,1, 16,11	
28	Accuracy of measurement	32,35, 26,28	28,35, 25,26	28,26, 5,16	32,28, 3,16	26,28, 32,3	26,28, 32,3	32,13, 6		28,13, 32,24	32,2	6,28, 32	6,28, 32	32,35, 13
29	Accuracy of manufacturing	28,32, 13,18	28,35, 27,9	10,28, 29,37	2,32, 10	28,33, 29,32	2,29, 18,36	32,28, 2	25,10, 35	10,28, 32	28,19, 34,36	3,35	32,30, 40	30,18
30	Harmful factors acting on object	22,21, 27,39	2,22, 13,24	17,1, 39,4	1,18	22,1, 33,28	27,2, 39,35	22,23, 37,35	34,39, 19,27	21,22, 35,28	13,35, 39,18	22,2, 37	22,1, 3,35	35,24, 30,18
31	Harmful side effects	19,22, 15,39	35,22, 1,39	17,15, 16,22		17,2, 18,39	22,1, 40	17,2, 35,4	30,18, 35,4	35,28, 3,23	35,28, 1,40	2,33, 27,18	35,1	35,40, 27,39
32	Manufacturability	28,29, 15,16	1,27, 36,13	1,29, 13,17	15,17, 27	13,1, 26,12	16,40	13,29, 1,40	35	35,13, 8,1	35,12	35,19, 1,37	1,28, 13,27	11,13, 1
33	Convenience of use	25,2, 13,15	6,13, 1,25	1,17, 13,12		1,17, 13,16	18,16, 15,39	1,16, 35,15	4,18, 39,31	18,13, 34	28,13, 35	2,32, 12	15,34, 29,28	32,35, 30
34	Repairability	2,27, 35,11	2,27, 35,11	1,28, 10,25	3,18, 31	15,13, 32	16,25	25,2, 35,11	1	34,9	1,11, 10	13	1,13, 2,4	2,35
35	Adaptability	1,6, 15,8	19,15, 29,16	35,1, 29,2	1,35, 16	35,30, 29,7	15,16	15,35, 29		35,10, 14	15,17, 20	35,16	15,37, 1,8	35,30, 14
36	Complexity of device	26,30, 34,36	2,36, 35,39	1,19, 26,24	26	14,1, 13,16	6,36	34,25, 6	1,16	34,10, 28	26,16	19,1, 35	29,13, 28,15	2,22, 17,19
37	Complexity of control	27,26, 28,13	6,13, 28,1	16,17, 26,24	26	2,13, 15,17	2,39, 30,16	29,1, 4,16	2,18, 26,31	3,4, 16,35	36,28, 40,19	35,36, 37,32	27,13, 1,39	11,22, 39,30
38	Level of automation	28,26, 18,35	28,26, 35,10	14,13, 17,28	23	17,14, 13		35,13, 16		28,10	2,35	13,35	15,32, 1,13	18,1
39	Productivity	35,26, 24,37	28,27, 15,3	18,4, 28,38	30,7, 14,26	10,26, 34,31	10,35, 17,7	2,6, 34,10	35,37, 10,2		28,15, 10,36	10,37, 14	14,10, 34,40	35,3, 22,39

Features to Improve #21-39 vs. Undesired Result #14-26

Click [here](#) to return to TRIZ home page to look up Inventive Principles.

Feature to Improve \ Undesired Result (Conflict)		14	15	16	17	18	19	20	21	22	23	24	25	26
		Strength	Durability of moving object	Durability of non-moving object	Temperature	Brightness	Energy spent by moving object	Energy spent by non-moving object	Power	Waste of energy	Waste of substance	Loss of information	Waste of time	Amount of substance
21	Power	26,10,28	19,35,10,38	16	2,14,17,25	16,6,19	16,6,19,37			10,35,38	28,27,18,38	10,19	35,20,10,6	4,34,19
22	Waste of energy	26			19,38,7	1,13,32,15			3,38		35,27,2,37	19,10	10,18,32,7	7,18,25
23	Waste of substance	35,28,31,40	28,27,3,18	27,16,18,38	21,36,39,31	1,6,13	35,18,24,5	28,27,12,31	28,27,18,38	35,27,2,31			15,18,35,10	6,3,10,24
24	Loss of information		10	10		19			10,19	19,10			24,26,28,32	24,28,35
25	Waste of time	29,3,28,18	20,10,28,18	28,20,10,16	35,29,21,18	1,19,26,17	35,38,19,18	1	35,20,10,6	10,5,18,32	35,18,10,39	24,26,28,32		35,38,18,16
26	Amount of substance	14,35,34,10	3,35,10,40	3,35,31	3,17,39		34,29,16,18	3,35,31	35	7,18,25	6,3,10,24	24,28,35	35,38,18,16	
27	Reliability	11,28	2,35,3,25	34,27,6,40	3,35,10	11,32,13	21,11,27,19	36,23	21,11,26,31	10,11,35	10,35,29,39	10,28	10,30,4	21,28,40,3
28	Accuracy of measurement	28,6,32	28,6,32	10,26,24	6,19,28,24	6,1,32	3,6,32		3,6,32	26,32,27	10,16,31,28		24,34,28,32	2,6,32
29	Accuracy of manufacturing	3,27	3,27,40		19,26	3,32	32,2		32,2	13,32,2	35,31,10,24		32,26,28,18	32,30
30	Harmful factors acting on object	18,35,37,1	22,15,33,28	17,1,40,33	22,33,35,2	1,19,32,13	1,24,6,27	10,2,22,37	19,22,31,2	21,22,35,2	33,22,19,40	22,10,2	35,18,34	35,33,29,31
31	Harmful side effects	15,35,22,2	15,22,33,31	21,39,16,22	22,35,2,24	19,24,39,32	2,35,6	19,22,18	2,35,18	21,35,2,22	10,1,34	10,21,29	1,22	3,24,39,1
32	Manufacturability	1,3,10,32	27,1,4	35,16	27,26,18	28,24,27,1	28,26,27,1	1,4	27,1,12,24	19,35	15,34,33	32,24,18,16	35,28,34,4	35,23,1,24
33	Convenience of use	32,40,3,28	29,3,8,25	1,16,25	26,27,13	13,17,1,24	1,13,24		35,34,2,10	2,19,13	28,32,2,24	4,10,27,22	4,28,10,34	12,35
34	Repairability	11,1,2,9	11,29,28,27	1	4,10	15,1,13	15,1,28,16		15,10,32,2	15,1,32,19	2,35,34,27		32,1,10,25	2,28,10,25
35	Adaptability	35,3,32,6	13,1,35	2,16	27,2,3,35	6,22,26,1	19,35,29,13		19,1,29	18,15,1	15,10,2,13		35,28	3,35,15
36	Complexity of device	2,13,28	10,4,28,15		2,17,13	24,17,13	27,2,29,28		20,19,30,34	10,35,13,2	35,10,28,29		6,29	13,3,27,10
37	Complexity of control	27,3,15,28	19,29,39,25	25,24,6,35	3,27,35,16	2,24,26	35,38	19,35,16	19,1,16,10	35,3,15,19	1,13,10,24	35,33,27,22	18,28,32,9	3,27,29,18
38	Level of automation	25,13	6,9		26,2,19	8,32,19	2,32,13		28,2,27	23,28	35,10,18,5	35,33	24,28,35,30	35,13
39	Productivity	29,28,10,18	35,10,2,18	20,10,16,38	35,21,28,10	26,17,19,1	35,10,38,19	1	35,20,10	28,10,29,35	28,10,35,23	13,15,23		35,38

Features to Improve #21-39 vs. Undesired Result #27-39.

Click [here](#) to return to TRIZ home page to look up Inventive Principles.

Undesired Result (Conflict) Feature to Improve		27	28	29	30	31	32	33	34	35	36	37	38	39
		Reliability	Accuracy of measurement	Accuracy of manufacturing	Harmful factors acting on object	Harmful side effects	Manufacturability	Convenience of use	Repairability	Adaptability	Complexity of device	Complexity of control	Level of automation	Productivity
21	Power	19,24,26,31	32,15,2	32,2	19,22,31,2	2,35,18	26,10,34	26,35,10	35,2,10,34	19,17,34	20,19,30,34	19,35,16	28,2,17	28,35,34
22	Waste of energy	11,10,35	32		21,22,35,2	21,35,2,22		35,22,1	2,19		7,23	35,3,15,23	2	28,10,29,35
23	Waste of substance	10,29,39,35	16,34,31,28	35,10,24,31	33,22,30,40	10,1,34,29	15,34,33	32,28,2,24	2,35,34,27	15,10,2	35,10,28,24	35,18,10,13	35,10,18	28,35,10,23
24	Loss of information	10,28,23			22,10,1	10,21,22	32	27,22				35,33	35	13,23,15
25	Waste of time	10,30,4	24,34,28,32	24,26,28,18	35,18,34	35,22,18,39	35,28,34,4	4,28,10,34	32,1,10	35,28	6,29	18,28,32,10	24,28,35,30	
26	Amount of substance	18,3,28,40	13,2,28	33,30	35,33,29,31	3,35,40,39	29,1,35,27	35,29,25,10	2,32,10,25	15,3,29	3,13,27,10	3,27,29,18	8,35	13,29,3,27
27	Reliability		32,3,11,23	11,32,1	27,35,2,40	35,2,40,26		27,17,40	1,11	13,35,8,24	13,35,1	27,40,28	11,13,27	1,35,29,38
28	Accuracy of measurement	5,11,1,23			28,24,22,26	3,33,39,10	6,35,25,18	1,13,17,34	1,32,13,11	13,35,2	27,35,10,34	26,24,32,28	28,2,10,34	10,34,28,32
29	Accuracy of manufacturing	11,32,1			26,28,10,36	4,17,34,26		1,32,35,23	25,10		26,2,18		26,28,18,23	10,18,32,39
30	Harmful factors acting on object	27,24,2,40	28,33,23,26	26,28,10,18			24,35,2	2,25,28,39	35,10,2	35,11,22,31	22,19,29,40	22,19,29,40	33,3,34	22,35,13,24
31	Harmful side effects	24,2,40,39	3,33,26	4,17,34,26							19,1,31	2,21,27,1	2	22,35,18,39
32	Manufacturability		1,35,12,18		24,2			2,5,13,16	35,1,11,9	2,13,15	27,26,1	6,28,11,1	8,28,1	35,1,10,28
33	Convenience of use	17,27,8,40	25,13,2,34	1,32,35,23	2,25,28,39		2,5,12		12,26,1,32	15,34,1,16	32,26,12,17		1,34,12,3	15,1,28
34	Repairability	11,10,1,16	10,2,13	25,10	35,10,2,16		1,35,11,10	1,12,26,15		7,1,4,16	35,1,13,11		34,35,7,13	1,32,10
35	Adaptability	35,13,8,24	35,5,1,10		35,11,32,31		1,13,31	15,34,1,16	1,16,7,4		15,29,37,28	1	27,34,35	35,28,6,37
36	Complexity of device	13,35,1	2,26,10,34	26,24,32	22,19,29,40	19,1	27,26,1,13	27,9,26,24	1,13	29,15,28,37		15,10,37,28	15,1,24	12,17,28
37	Complexity of control	27,40,28,8	26,24,32,28		22,19,29,28	2,21	5,28,11,29	2,5	12,26	1,15	15,10,37,28		34,21	35,18
38	Level of automation	11,27,32	28,26,10,34	28,26,18,23	2,33	2	1,26,13	1,12,34,3	1,35,13	27,4,1,35	15,24,10	34,27,25		5,12,35,26
39	Productivity	1,35,10,38	1,10,34,28	18,10,32,1	22,35,13,24	35,22,18,39	35,28,2,24	1,28,7,19	1,32,10,25	1,35,28,37	12,17,28,24	35,18,27,2	5,12,35,26	

This page was created for viewing with Netscape v2.0. Download the latest version of Netscape by clicking [here](#). Some Netscape features may not be supported by your Web Browser. Should strange appearances occur, [email](#) me regarding the misbehaving area along with the name and version of the browser you are using.

Copyright © 1995 by Glenn Mazur. All rights reserved. In the spirit of TQM, this page is continuously improved. Suggestions can be emailed to mailto:gmazur@engin.umich.edu or by clicking [here](#). Last update: February 26, 1996.

To learn more about QFD, visit my virtual QFD course pack at the University of Michigan College of Engineering at <http://www-personal.engin.umich.edu/~gmazur/tqm8.htm> or by clicking [here](#). For more information about TQM, click [here](#).

This page created by Glenn Mazur.