

BAB 6

KESIMPULAN DAN SARAN

6.1. Kesimpulan

Berdasarkan hasil penelitian, maka dapat diambil beberapa kesimpulan sebagai berikut:

- a. Perancangan ulang fasilitas pada bagian pemotifan berupa meja, kursi dan lampu penerangan, terbukti dapat menurunkan keluhan *musculoskeletal* dan keluhan kelelahan mata keempat pengrajin di Anggra Silver.
- b. Perancangan ulang fasilitas pada bagian pemotifan dapat memperbaiki postur kerja dari kategori berbahaya menjadi kategori sedang, terlihat dari penilaian postur kerja yang menurun.
- c. Dengan perancangan ulang fasilitas pada bagian pemotifan, terbukti dapat mempercepat waktu proses pemotifan kerajinan perak dengan motif yang sama yaitu Yuli sebesar 6,73%, Supono sebesar 6,38%, Nazaludin sebesar 3,83%, dan Samsul sebesar 4,52%.

6.2. Saran

Penelitian selanjutnya sebaiknya dapat dikembangkan dengan memperluas area ruang kerja agar tidak mengurangi keleluasaan pengrajin untuk melakukan aktivitas pembuatan kerajinan perak.

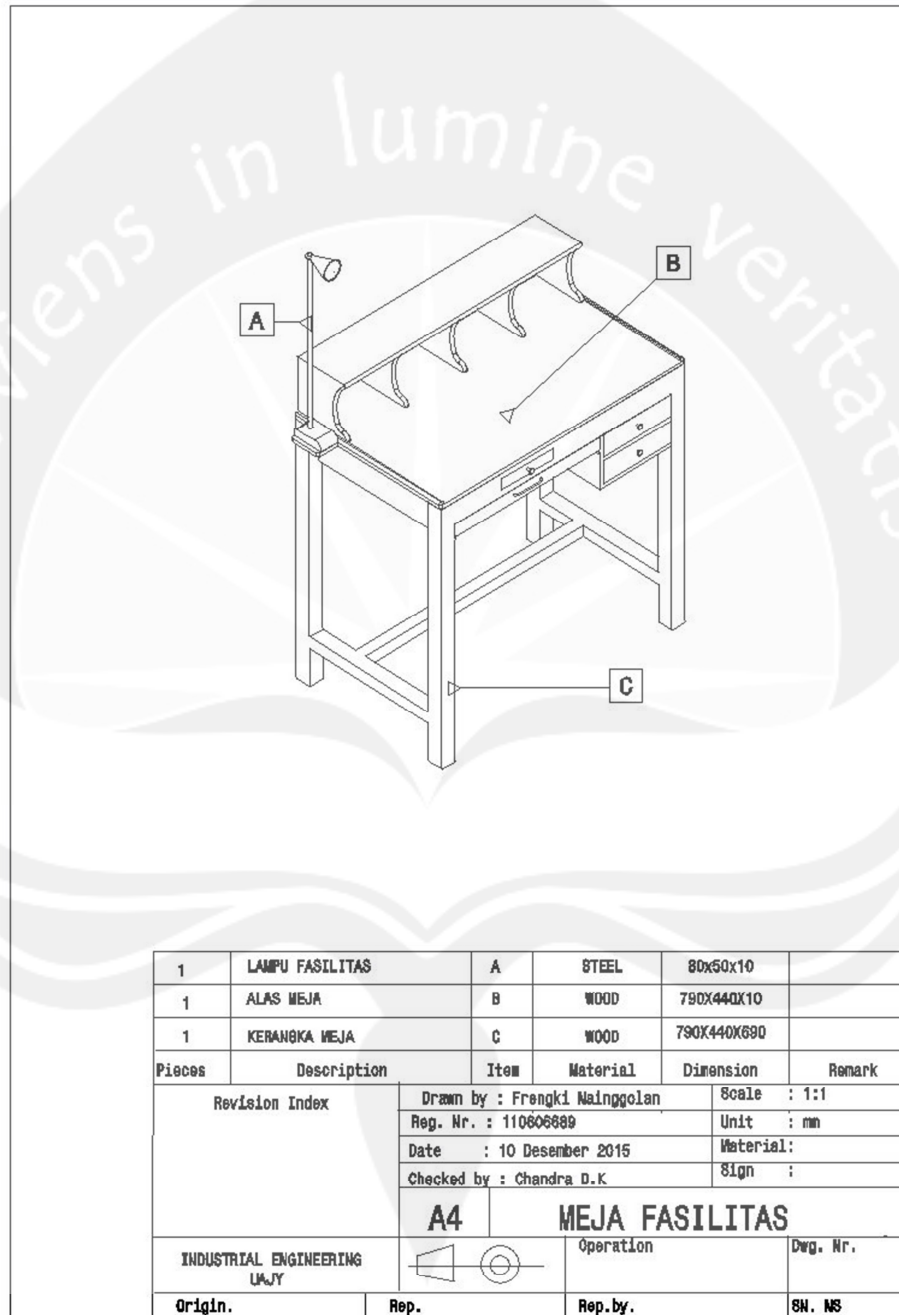
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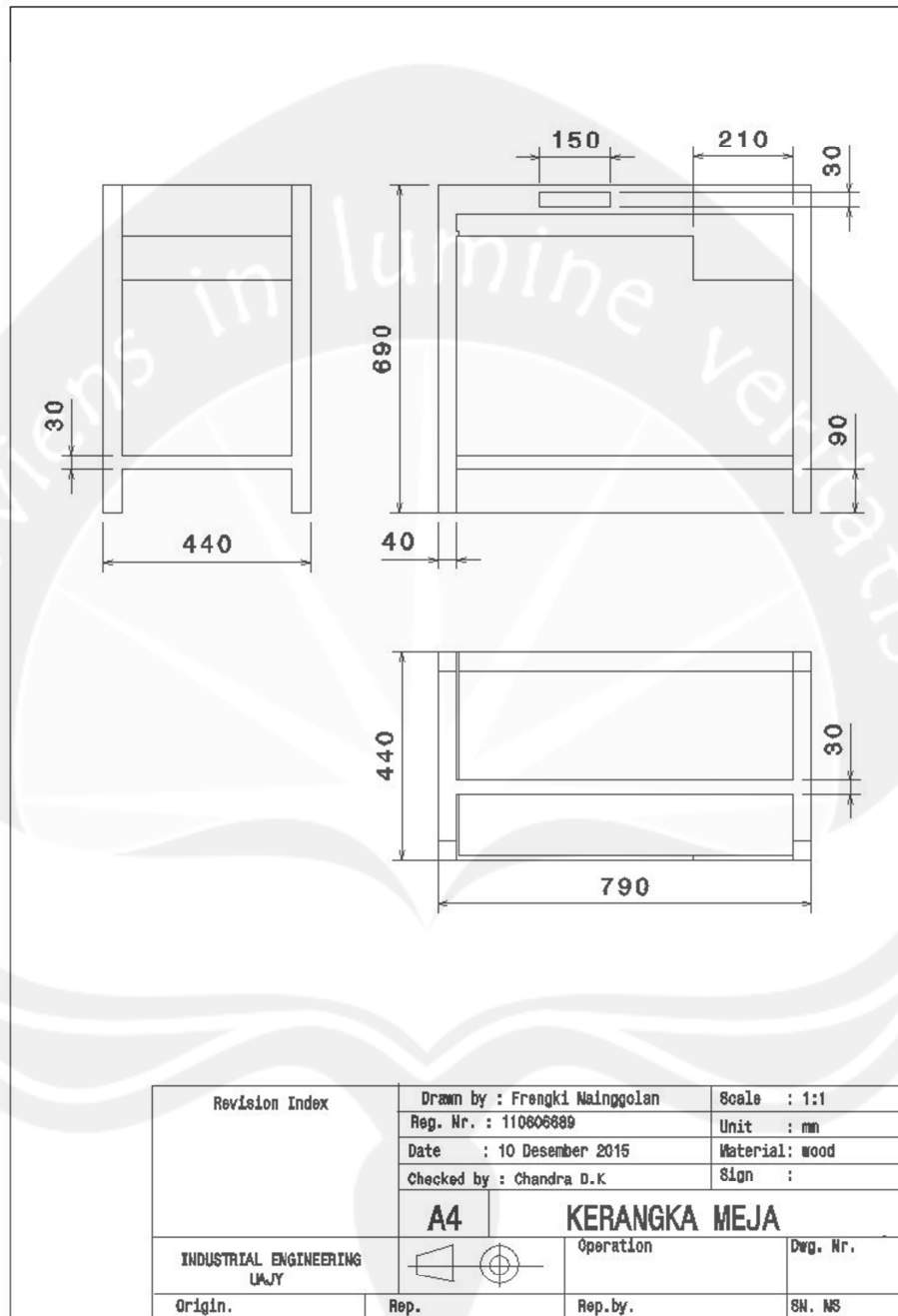
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LAMPIRAN

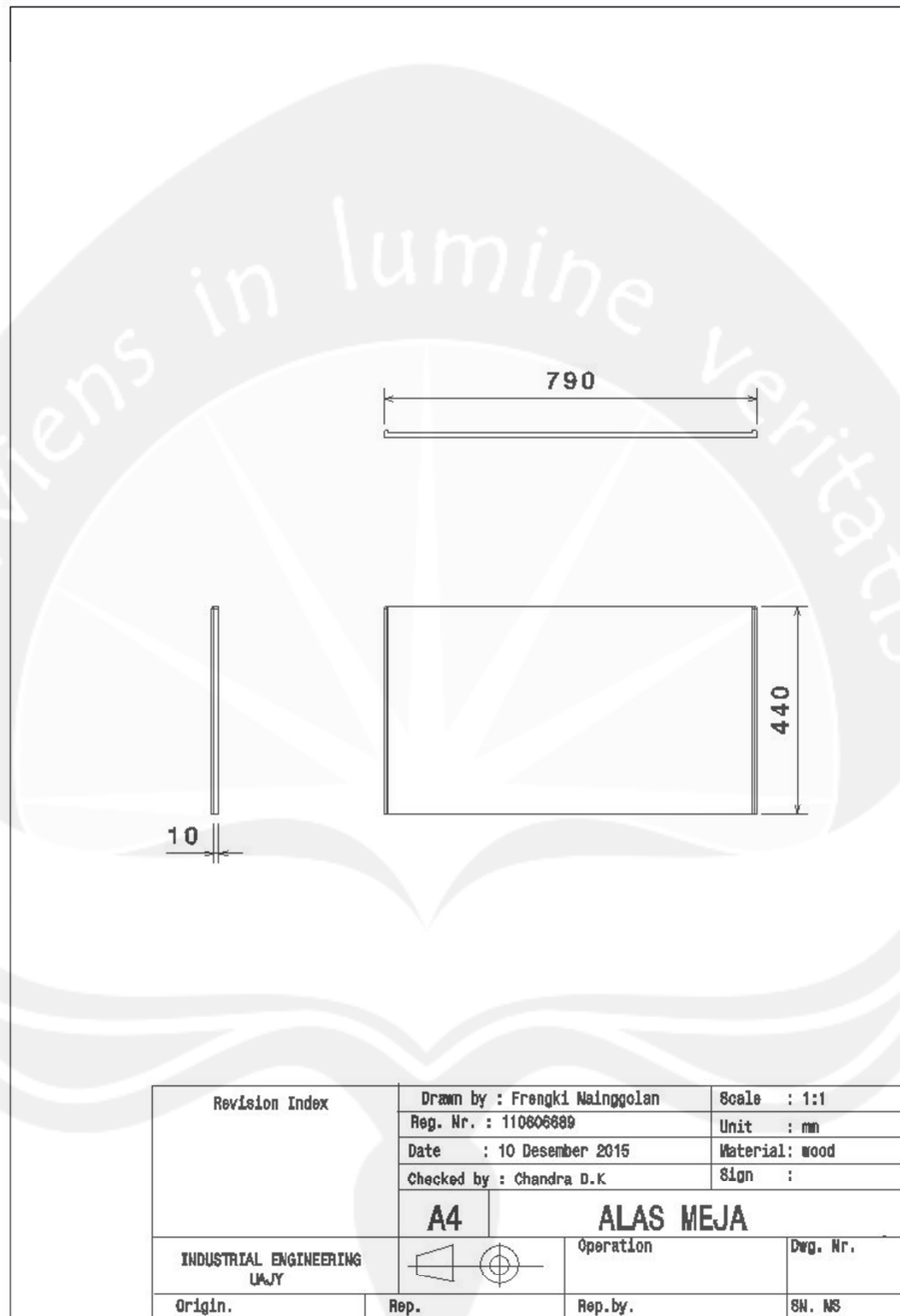
Lampiran 1. Sketsa Assembly Meja Fasilitas



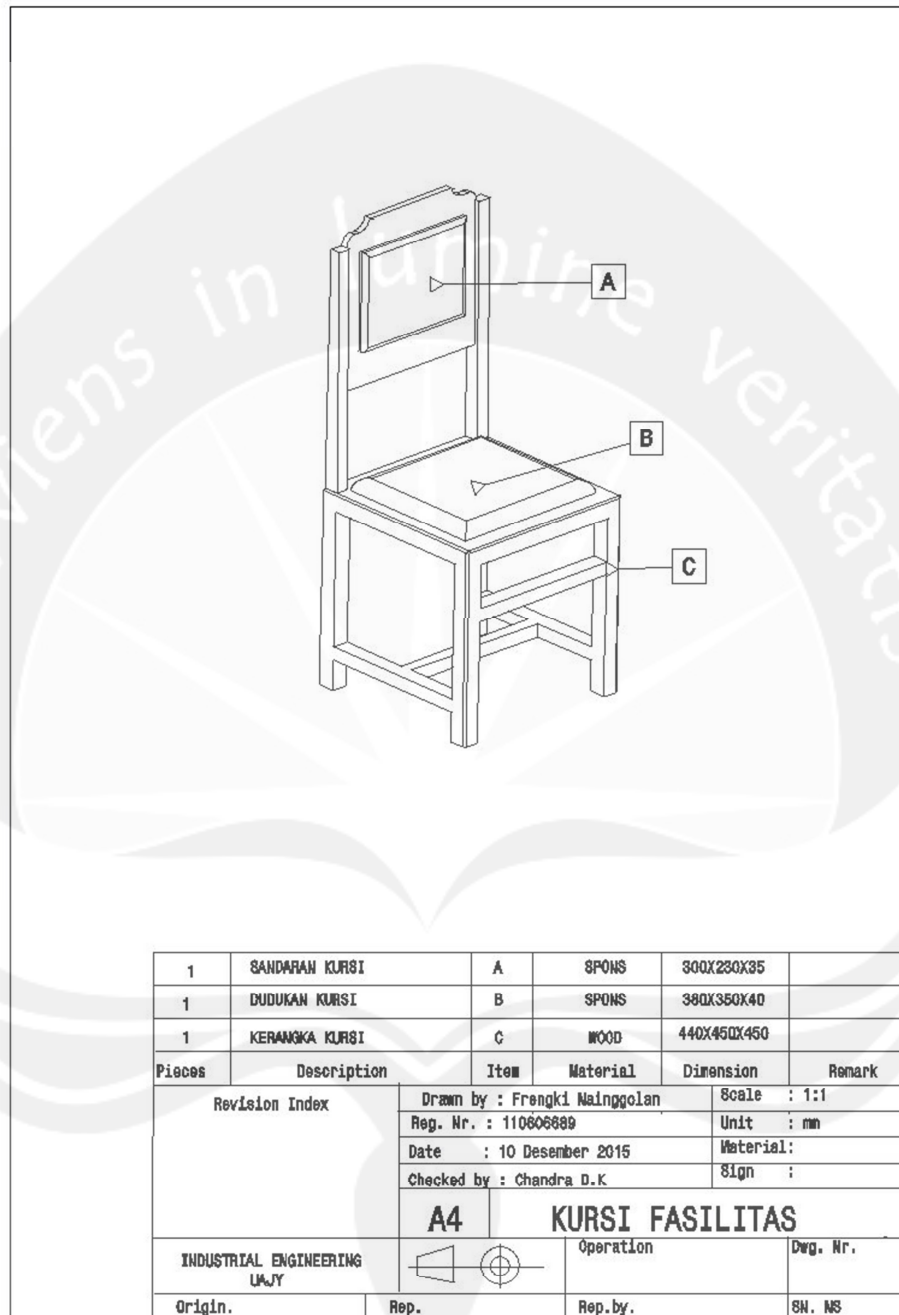
Lampiran 2. Sketsa Kerangka Meja



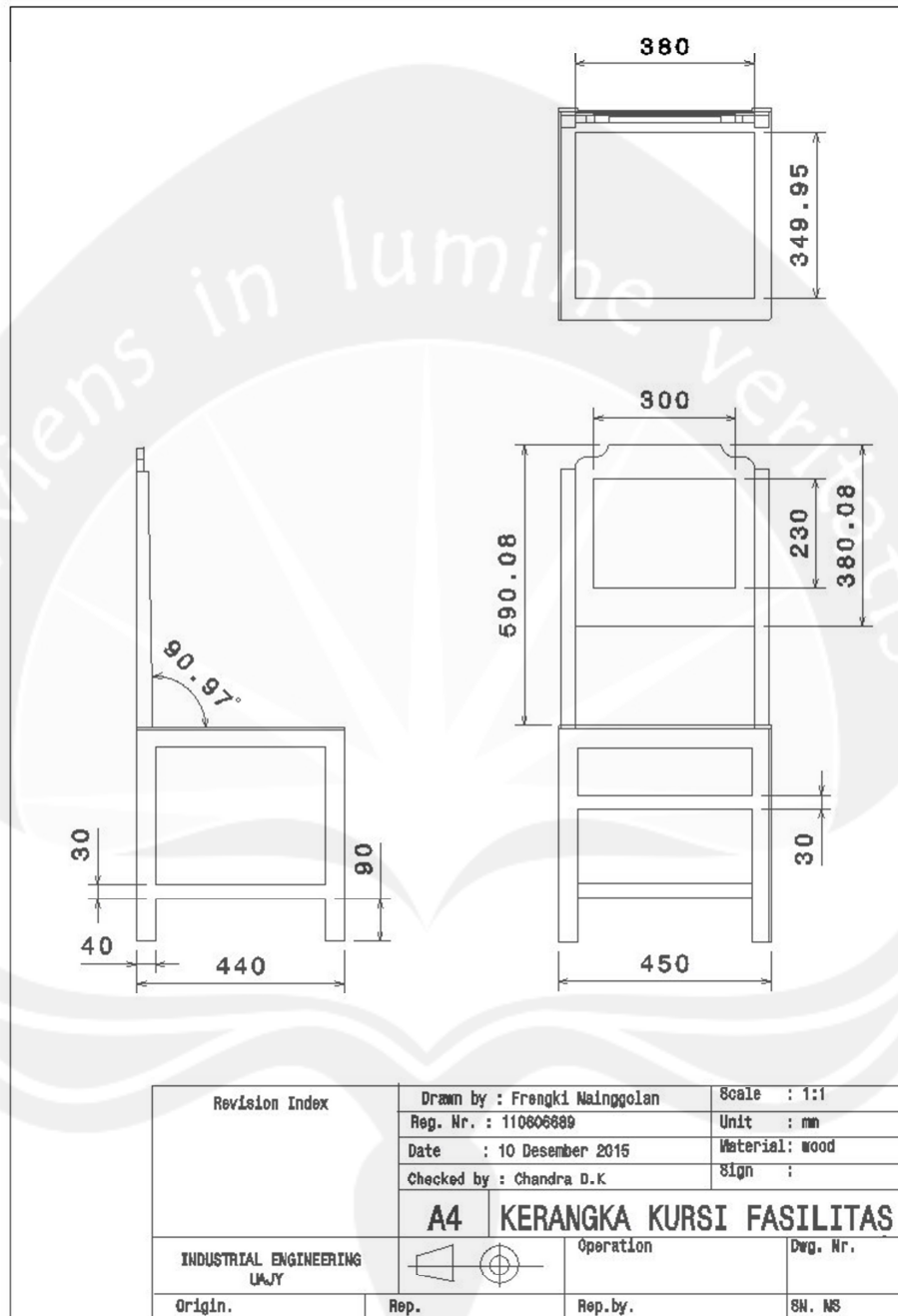
Lampiran 3. Sketsa Alas Meja



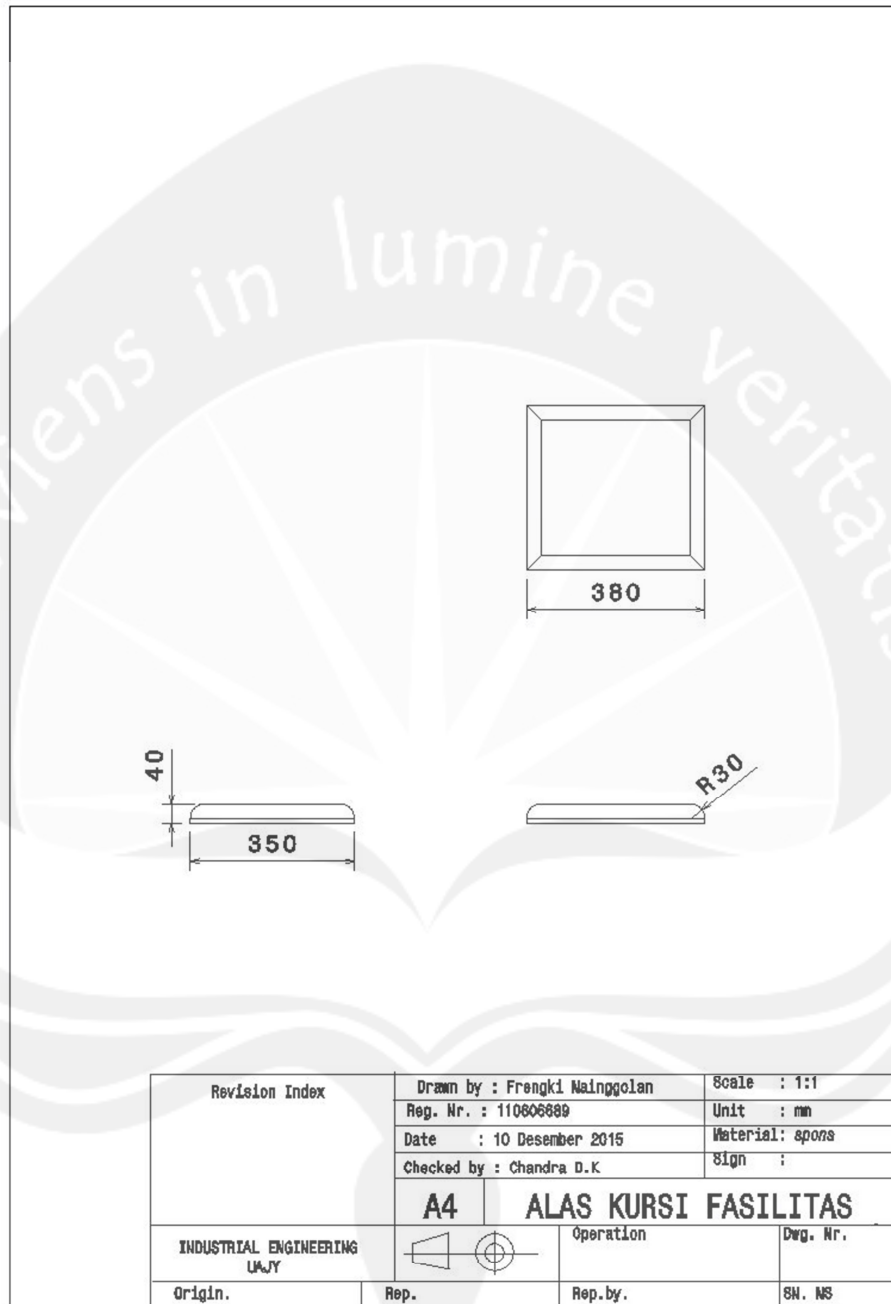
Lampiran 4. Sketsa Assembly Kursi Fasilitas



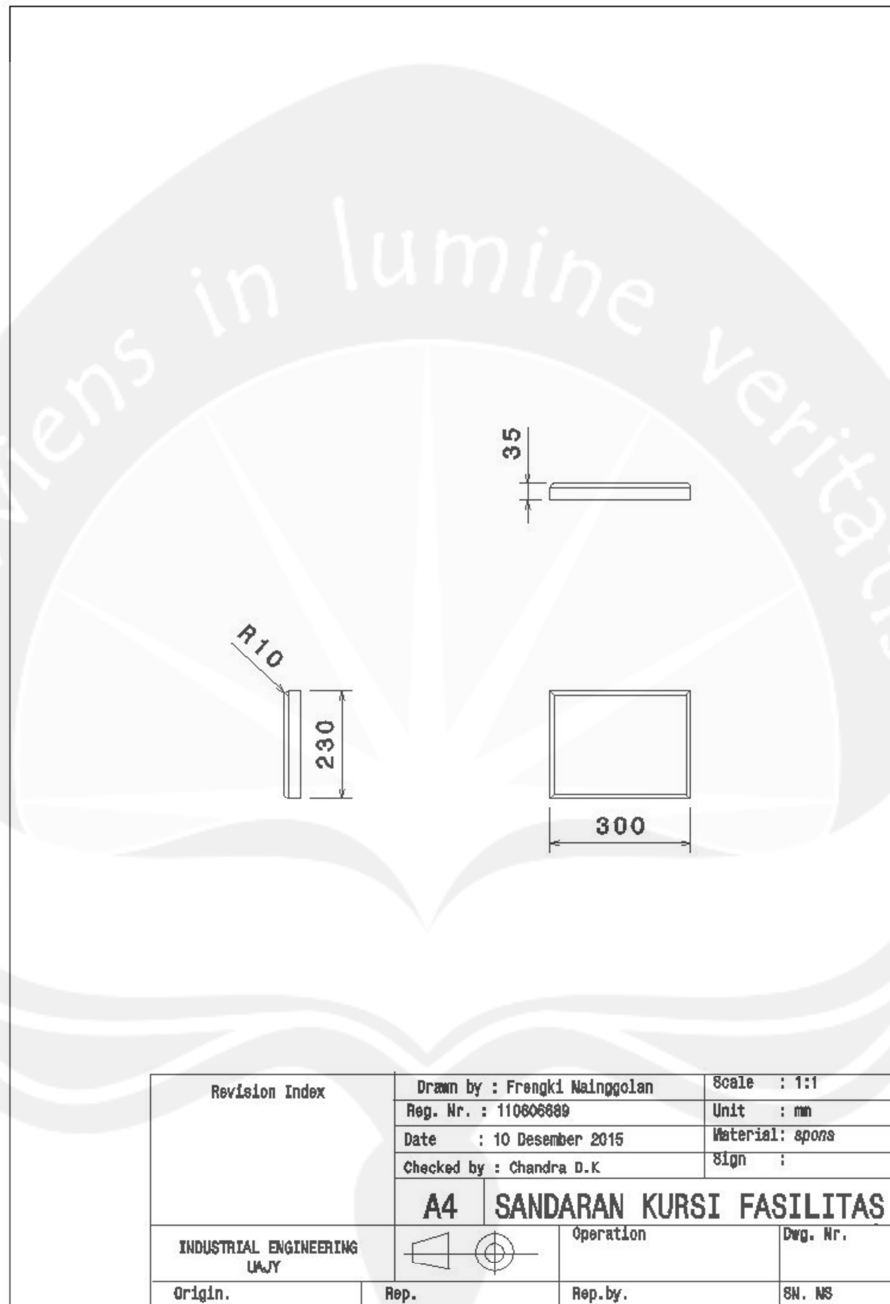
Lampiran 5. Sketsa Kerangka Kursi Fasilitas



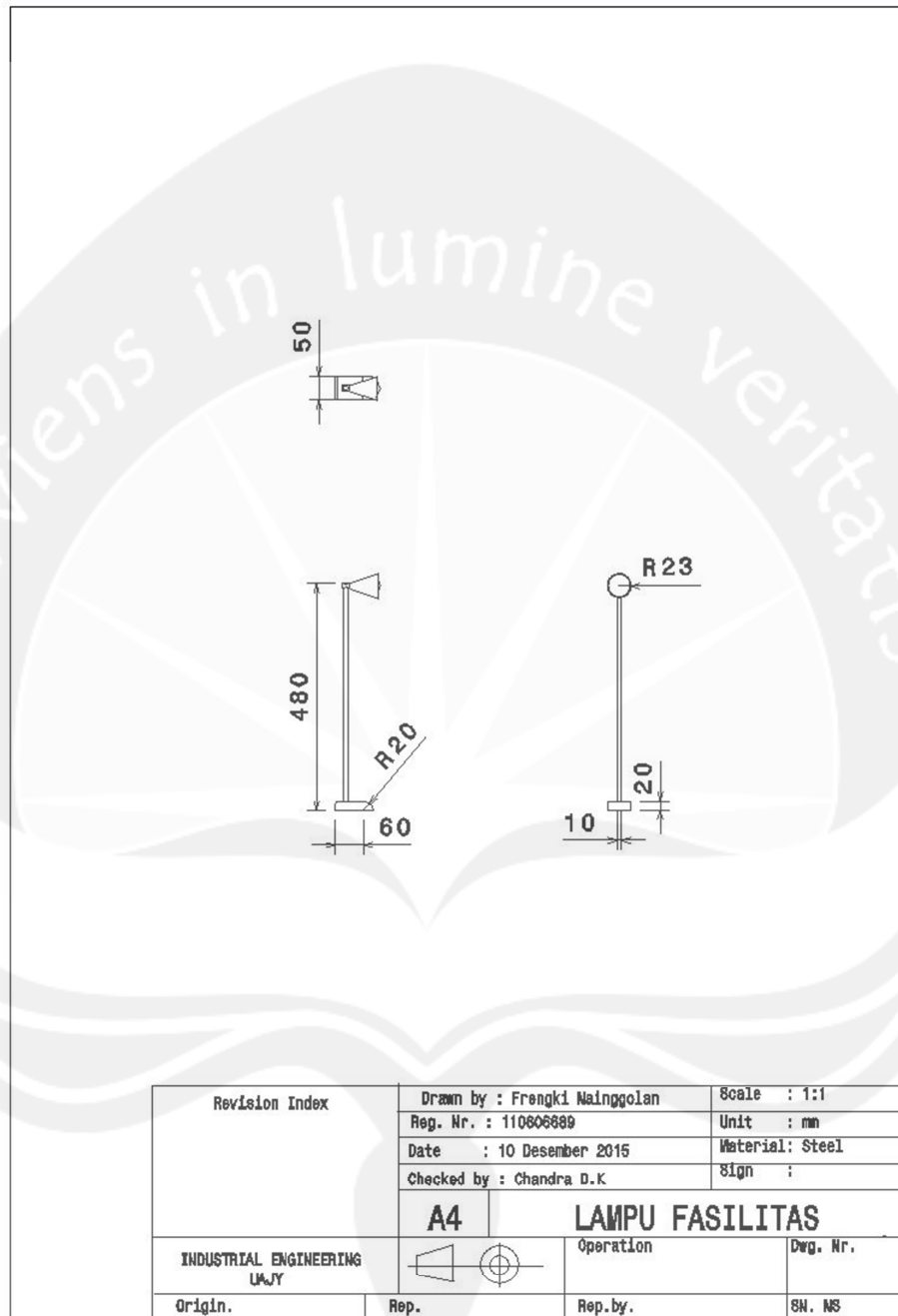
Lampiran 6. Sketsa Alas Kursi Fasilitas



Lampiran 7. Sketsa Sandaran Kursi Fasilitas



Lampiran 8. Sketsa Lampu Fasilitas

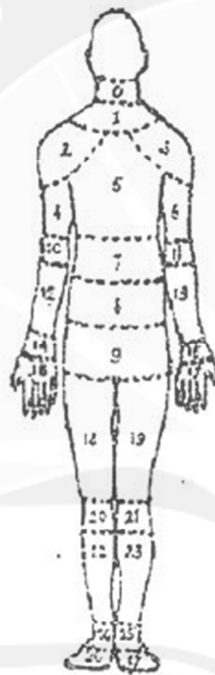


Lampiran 9. Kuisiener NBM Awal Pengrajin 1

Kuisiener Keluhan Musculoskeletal

Nordic Body Map

Nama : yuli Priyanto
 Umur : 30 th
 Kondisi : Sebelum Perbaikan / Sesudah Perbaikan
 Petunjuk : Berikan tanda (√) pada kolom tingkat keluhan yang sesuai dengan kondisi jenis keluhan



NO	JENIS KELUHAN	TINGKAT KELUHAN			
		A	B	C	D
0	Sakit/kaku di leher bagian atas		✓		
1	Sakit/kaku di leher bagian bawah			✓	
2	Sakit di bahu kiri		✓		
3	Sakit di bahu kanan			✓	
4	Sakit pada lengan atas kiri				✓
5	Sakit di punggung				✓
6	Sakit pada lengan atas kanan			✓	
7	Sakit pada pinggang			✓	
8	Sakit pada bokong			✓	
9	Sakit pada pantat			✓	
10	Sakit pada siku kiri			✓	
11	Sakit pada siku kanan			✓	
12	Sakit pada lengan bawah kiri		✓		
13	Sakit pada lengan bawah kanan		✓		
14	Sakit pada pergelangan tangan kiri			✓	
15	Sakit pada pergelangan tangan kanan				✓
16	Sakit pada tangan kiri			✓	
17	Sakit pada tangan kanan			✓	
18	Sakit pada paha kiri			✓	
19	Sakit pada paha kanan			✓	
20	Sakit pada lutut kiri			✓	
21	Sakit pada lutut kanan			✓	
22	Sakit pada betis kiri			✓	
23	Sakit pada betis kanan			✓	
24	Sakit pada pergelangan kaki kiri			✓	
25	Sakit pada pergelangan kaki kanan			✓	
26	Sakit pada kaki kiri			✓	
27	Sakit pada kaki kanan			✓	

Keterangan : A: Tidak sakit, B: Agak sakit, C: Sakit, D: Sakit sekali

Lampiran 10. Kuisiener NBM Awal Pengrajin 2

Kuisiener Keluhan Musculoskeletal

Nordic Body Map

Nama : Supono
 Umur : 40
 Kondisi : Sebelum Perbaikan / Sesudah Perbaikan
 Petunjuk : Berikan tanda (✓) pada kolom tingkat keluhan yang sesuai dengan kondisi jenis keluhan



NO	JENIS KELUHAN	TINGKAT KELUHAN			
		A	B	C	D
0	Sakit/kaku di leher bagian atas			✓	
1	Sakit/kaku di leher bagian bawah			✓	
2	Sakit di bahu kiri			✓	
3	Sakit di bahu kanan			✓	
4	Sakit pada lengan atas kiri			✓	
5	Sakit di punggung			✓	
6	Sakit pada lengan atas kanan			✓	
7	Sakit pada pinggang			✓	
8	Sakit pada bokong			✓	
9	Sakit pada pantat			✓	
10	Sakit pada siku kiri			✓	
11	Sakit pada siku kanan			✓	
12	Sakit pada lengan bawah kiri			✓	
13	Sakit pada lengan bawah kanan			✓	
14	Sakit pada pergelangan tangan kiri			✓	
15	Sakit pada pergelangan tangan kanan			✓	
16	Sakit pada tangan kiri			✓	
17	Sakit pada tangan kanan			✓	
18	Sakit pada paha kiri			✓	
19	Sakit pada paha kanan			✓	
20	Sakit pada lutut kiri			✓	
21	Sakit pada lutut kanan			✓	
22	Sakit pada betis kiri			✓	
23	Sakit pada betis kanan			✓	
24	Sakit pada pergelangan kaki kiri			✓	
25	Sakit pada pergelangan kaki kanan			✓	
26	Sakit pada kaki kiri			✓	
27	Sakit pada kaki kanan			✓	

Keterangan : A: Tidak sakit. B: Agak sakit. C: Sakit. D: Sakit sekali

Lampiran 11. Kuisioner NBM Awal Pengrajin 3

Kuisioner Keluhan Musculoskeletal

Nordic Body Map

Nama : *Muti. H. Agalupa*
 Umur : *43*
 Kondisi : *Sebelum Perbaikan / Sesudah Perbaikan*
 Petunjuk : Berikan tanda (✓) pada kolom tingkat keluhan yang sesuai dengan kondisi jenis keluhan



NO	JENIS KELUHAN	TINGKAT KELUHAN			
		A	B	C	D
0	Sakit/kaku di leher bagian atas			✓	
1	Sakit/kaku di leher bagian bawah			✓	
2	Sakit di bahu kiri		✓		
3	Sakit di bahu kanan		✓		
4	Sakit pada lengan atas kiri		✓		
5	Sakit di punggung			✓	
6	Sakit pada lengan atas kanan		✓		
7	Sakit pada pinggang		✓		
8	Sakit pada bokong		✓		
9	Sakit pada pantat		✓		
10	Sakit pada siku kiri		✓		
11	Sakit pada siku kanan		✓		
12	Sakit pada lengan bawah kiri		✓		
13	Sakit pada lengan bawah kanan		✓		
14	Sakit pada pergelangan tangan kiri		✓		
15	Sakit pada pergelangan tangan kanan		✓		
16	Sakit pada tangan kiri		✓		
17	Sakit pada tangan kanan		✓		
18	Sakit pada paha kiri		✓		
19	Sakit pada paha kanan		✓		
20	Sakit pada lutut kiri		✓		
21	Sakit pada lutut kanan		✓		
22	Sakit pada betis kiri		✓		
23	Sakit pada betis kanan		✓		
24	Sakit pada pergelangan kaki kiri		✓		
25	Sakit pada pergelangan kaki kanan		✓		
26	Sakit pada kaki kiri		✓		
27	Sakit pada kaki kanan		✓		

Keterangan : A: Tidak sakit, B: Agak sakit, C: Sakit, D: Sakit sekali

Lampiran 12. Kuisioner NBM Awal Pengrajin 4

Kuisioner Keluhan Musculoskeletal

Nordic Body Map

Nama : *Samsul*
 Umur : *39 tahun*
 Kondisi : *Sebelum Perbaikan / Setelah Perbaikan-*
 Petunjuk : Berikan tanda (✓) pada kolom tingkat keluhan yang sesuai dengan kondisi jenis keluhan



NO	JENIS KELUHAN	TINGKAT KELUHAN			
		A	B	C	D
0	Sakit/aku di leher bagian atas			☒	☒
1	Sakit/aku di leher bagian bawah			☒	☒
2	Sakit di bahu kiri	☒		☒	
3	Sakit di bahu kanan	☒		☒	
4	Sakit pada lengan atas kiri	☒			
5	Sakit di punggung			☒	
6	Sakit pada lengan atas kanan	☒			
7	Sakit pada pinggang				☒
8	Sakit pada bokong			☒	
9	Sakit pada pantat			☒	
10	Sakit pada siku kiri		☒		
11	Sakit pada siku kanan		☒		
12	Sakit pada lengan bawah kiri		☒		
13	Sakit pada lengan bawah kanan		☒		
14	Sakit pada pergelangan tangan kiri	☒			
15	Sakit pada pergelangan tangan kanan		☒		
16	Sakit pada tangan kiri	☒			
17	Sakit pada tangan kanan		☒		
18	Sakit pada paha kiri			☒	
19	Sakit pada paha kanan			☒	
20	Sakit pada lutut kiri				☒
21	Sakit pada lutut kanan				☒
22	Sakit pada betis kiri			☒	
23	Sakit pada betis kanan			☒	
24	Sakit pada pergelangan kaki kiri	☒			
25	Sakit pada pergelangan kaki kanan		☒		
26	Sakit pada kaki kiri	☒			
27	Sakit pada kaki kanan	☒			

Keterangan : A: Tidak sakit. B: Agak sakit. C: Sakit. D: Sakit sekali

Lampiran 12. Kuisioner NBM Sekarang Pengrajin 1

Kuisioner Keluhan *Musculoskeletal*

Nordic Body Map

Nama : *yuli priyanto*
 Umur : *30*
 Kondisi : *Sebelum Perbaikan / Sesudah Perbaikan*
 Petunjuk : Berikan tanda (✓) pada kolom tingkat keluhan yang sesuai dengan kondisi jenis keluhan



NO	JENIS KELUHAN	TINGKAT KELUHAN			
		A	B	C	D
0	Sakit kaki di leher bagian atas	✓			
1	Sakit kaki di leher bagian bawah		✓		
2	Sakit di bahu kiri	✓			
3	Sakit di bahu kanan	✓			
4	Sakit pada lengan atas kiri	✓			
5	Sakit di punggung		✓		
6	Sakit pada lengan atas kanan	✓			
7	Sakit pada punggung	✓			
8	Sakit pada bokong	✓			
9	Sakit pada pantat	✓			
10	Sakit pada siku kiri			✓	
11	Sakit pada siku kanan			✓	
12	Sakit pada lengan bawah kiri	✓			
13	Sakit pada lengan bawah kanan	✓			
14	Sakit pada pergelangan tangan kiri	✓			
15	Sakit pada pergelangan tangan kanan			✓	
16	Sakit pada tangan kiri			✓	
17	Sakit pada tangan kanan			✓	
18	Sakit pada paha kiri	✓			
19	Sakit pada paha kanan	✓			
20	Sakit pada lutut kiri	✓			
21	Sakit pada lutut kanan	✓			
22	Sakit pada betis kiri	✓			
23	Sakit pada betis kanan	✓			
24	Sakit pada pergelangan kaki kiri	✓			
25	Sakit pada pergelangan kaki kanan	✓			
26	Sakit pada kaki kiri			✓	
27	Sakit pada kaki kanan			✓	

Keterangan : A. Tidak sakit, B. Agak sakit, C. Sakit, D. Sakit sekali

Lampiran 13. Kuisiener NBM Sekarang Pengrajin 2

Kuisiener Keluhan *Musculoskeletal*

Nordic Body Map

Nama : Supono
 Umur : 41
 Kondisi : Sebelum Perbaikan / Sesudah Perbaikan
 Petunjuk : Berikan tanda (✓) pada kolom tingkat keluhan yang sesuai dengan kondisi jenis keluhan



NO	JENIS KELUHAN	TINGKAT KELUHAN			
		A	B	C	D
0	Sakit kaku di leher bagian atas		✓		
1	Sakit kaku di leher bagian bawah		✓		
2	Sakit di bahu kiri	✓			
3	Sakit di bahu kanan	✓			
4	Sakit pada lengan atas kiri	✓			
5	Sakit di punggung		✓		
6	Sakit pada lengan atas kanan	✓			
7	Sakit pada pinggang	✓			
8	Sakit pada bokong	✓			
9	Sakit pada pantat	✓			
10	Sakit pada siku kiri		✓		
11	Sakit pada siku kanan		✓		
12	Sakit pada lengan bawah kiri		✓		
13	Sakit pada lengan bawah kanan		✓		
14	Sakit pada pergelangan tangan kiri	✓			
15	Sakit pada pergelangan tangan kanan	✓			
16	Sakit pada tangan kiri	✓			
17	Sakit pada tangan kanan		✓		
18	Sakit pada paha kiri		✓		
19	Sakit pada paha kanan		✓		
20	Sakit pada lutut kiri	✓			
21	Sakit pada lutut kanan	✓			
22	Sakit pada betis kiri		✓		
23	Sakit pada betis kanan		✓		
24	Sakit pada pergelangan kaki kiri	✓			
25	Sakit pada pergelangan kaki kanan	✓			
26	Sakit pada kaki kiri	✓			
27	Sakit pada kaki kanan		✓		

Keterangan : A Tidak sakit. B Agak sakit. C Sakit. D Sakit sekali.

Lampiran 14. Kuisiener NBM Sekarang Pengrajin 3

Kuisiener Keluhan *Musculoskeletal*

Nordic Body Map

Nama : *M. Hazaludin*
 Umur : *43 th.*
 Kondisi : *Sebelum Perbaikan / Sesudah Perbaikan*
 Petunjuk : Berikan tanda (✓) pada kolom tingkat keluhan yang sesuai dengan kondisi jenis keluhan



NO	JENIS KELUHAN	TINGKAT KELUHAN			
		A	B	C	D
0	Sakit kakat di leher bagian atas		✓		
1	Sakit kakat di leher bagian bawah	✓			
2	Sakit di bahu kiri	✓			
3	Sakit di bahu kanan	✓			
4	Sakit pada lengan atas kiri		✓		
5	Sakit di punggung	✓			
6	Sakit pada lengan atas kanan		✓		
7	Sakit pada pinggang	✓			
8	Sakit pada bokong	✓			
9	Sakit pada pantat	✓			
10	Sakit pada siku kiri	✓	✗		
11	Sakit pada siku kanan		✓		
12	Sakit pada lengan bawah kiri	✓			
13	Sakit pada lengan bawah kanan	✓			
14	Sakit pada pergelangan tangan kiri	✓			
15	Sakit pada pergelangan tangan kanan	✓			
16	Sakit pada tangan kiri	✓			
17	Sakit pada tangan kanan	✓			
18	Sakit pada paha kiri	✓			
19	Sakit pada paha kanan	✓			
20	Sakit pada lutut kiri		✓		
21	Sakit pada lutut kanan	✓			
22	Sakit pada betis kiri	✓			
23	Sakit pada betis kanan	✓			
24	Sakit pada pergelangan kaki kiri	✓	✗		
25	Sakit pada pergelangan kaki kanan		✓		
26	Sakit pada kaki kiri	✓			
27	Sakit pada kaki kanan	✓	✗		

Keterangan : A Tidak sakit, B Agak sakit, C Sakit, D Sakit sekali

Lampiran 15. Kuisiener NBM Sekarang Pengrajin 4

Kuisiener Keluhan *Musculoskeletal*

Nordic Body Map

Nama : *Samuel*
 Umur : *39 tahun*
 Kondisi : *Sebelum Perbaikan / Sesudah Perbaikan*
 Petunjuk : Berikan tanda (✓) pada kolom tingkat keluhan yang sesuai dengan kondisi jenis keluhan



NO	JENIS KELUHAN	TINGKAT KELUHAN			
		A	B	C	D
0	Sakit kakus di leher bagian atas		✓		
1	Sakit kakus di leher bagian bawah		✓		
2	Sakit di bahu kiri	✓			
3	Sakit di bahu kanan	✓			
4	Sakit pada lengan atas kiri	✓			
5	Sakit di punggung		✓		
6	Sakit pada lengan atas kanan	✓			
7	Sakit pada pinggang		✓		
8	Sakit pada bokong	✓			
9	Sakit pada pantat	✓			
10	Sakit pada siku kiri	✓			
11	Sakit pada siku kanan	✓			
12	Sakit pada lengan bawah kiri	✓			
13	Sakit pada lengan bawah kanan	✓			
14	Sakit pada pergelangan tangan kiri	✓			
15	Sakit pada pergelangan tangan kanan		✓		
16	Sakit pada tangan kiri	✓			
17	Sakit pada tangan kanan		✓		
18	Sakit pada paha kiri	✓	✓		
19	Sakit pada paha kanan	✓			
20	Sakit pada lutut kiri		✓		
21	Sakit pada lutut kanan		✓		
22	Sakit pada betis kiri		✓		
23	Sakit pada betis kanan		✓		
24	Sakit pada pergelangan kaki kiri	✓			
25	Sakit pada pergelangan kaki kanan	✓			
26	Sakit pada kaki kiri	✓			
27	Sakit pada kaki kanan		✓		

Keterangan : A Tidak sakit. B Agak sakit. C Sakit. D Sakit sekali.

Lampiran 16. Kuisioner Kelelahan Mata Awal Pengrajin 1

KUISIONER KELELAHAN MATA

Nama : *yuli Priyanto*
 Umur : *30th*
 Pukul :
 Kondisi : Sebelum Perbaikan / ~~Sesudah Perbaikan~~
 Petunjuk : Beri tanda silang (X) pada kolom yang sesuai dengan tingkat keluhan yang dirasakan
 Keterangan :
 STT = sangat tidak terasa
 TT = tidak terasa
 AT = agak terasa
 T = terasa
 ST = sangat terasa

No.	JENIS KELUHAN	TINGKAT KELUHAN				
		STT	TT	AT	T	ST
01.	Kepala sakit				X	
02.	Objek terlihat ganda		X			
03.	Mata penat				X	
04.	Mata berair				X	
05.	Mata kering		X			
06.	Mata perih					X
07.	Pandangan kabur					X
08.	Kesalahan membaca				X	

Lampiran 17. Kuisioner Kelelahan Mata Awal Pengrajin 2

KUISIONER KELELAHAN MATA

Nama : *Supono*
 Umur : *40*
 Pukul :
 Kondisi : Sebelum Perbaikan / ~~Sesudah Perbaikan~~
 Petunjuk : Beri tanda silang (X) pada kolom yang sesuai dengan tingkat keluhan yang dirasakan
 Keterangan :
 STT = sangat tidak terasa
 TT = tidak terasa
 AT = agak terasa
 T = terasa
 ST = sangat terasa

No.	JENIS KELUHAN	TINGKAT KELUHAN				
		STT	TT	AT	T	ST
01.	Kepala sakit				✓	
02.	Objek terlihat ganda			✓		
03.	Mata penat				✓	
04.	Mata berair				✓	
05.	Mata kering				✓	
06.	Mata perih				✓	
07.	Pandangan kabur			✓		
08.	Kesalahan membaca				✓	

Lampiran 18. Kuisiener Kelelahan Mata Awal Pengrajin 3

KUISIONER KELELAHAN MATA

Nama : Muti. Hagalayu
 Umur : 43 th
 Pukul :
 Kondisi : Sebelum Perbaikan / ~~Sesudah Perbaikan~~
 Petunjuk : Beri tanda silang (X) pada kolom yang sesuai dengan tingkat keluhan yang dirasakan
 Keterangan :
 STT = sangat tidak terasa
 TT = tidak terasa
 AT = agak terasa
 T = terasa
 ST = sangat terasa

No.	JENIS KELUHAN	TINGKAT KELUHAN				
		STT	TT	AT	T	ST
01.	Kepala sakit				X	
02.	Objek terlihat ganda					X
03.	Mata penat					X
04.	Mata berair		X			
05.	Mata kering		X			
06.	Mata perih			X		
07.	Pandangan kabur				X	
08.	Kesalahan membaca				X	

Lampiran 19. Kuisioner Kelelahan Mata Awal Pengrajin 4

KUISIONER KELELAHAN MATA

Nama : Samud
 Umur : 39 tahun
 Pukul :
 Kondisi : Sebelum Perbaikan / ~~Sesudah Perbaikan~~
 Petunjuk : Beri tanda silang (X) pada kolom yang sesuai dengan tingkat keluhan yang dirasakan
 Keterangan :
 STT = sangat tidak terasa
 TT = tidak terasa
 AT = agak terasa
 T = terasa
 ST = sangat terasa

No.	JENIS KELUHAN	TINGKAT KELUHAN				
		STT	TT	AT	T	ST
01.	Kepala sakit					X
02.	Objek terlihat ganda				X	
03.	Mata penat					X
04.	Mata berair				X	
05.	Mata kering				X	
06.	Mata perih				X	
07.	Pandangan kabur					X
08.	Kesalahan membaca					X

Lampiran 20. Kuisiener Kelelahan Mata Sekarang Pengrajin 1

KUISIONER KELELAHAN MATA

Nama : Yuli Priyanto
 Umur : 30 th
 Pukul :
 Kondisi : ~~Sesudah Perbaikan~~ / Sesudah Perbaikan
 Petunjuk : Beri tanda silang (X) pada kolom yang sesuai dengan tingkat keluhan yang dirasakan
 Keterangan :
 STT = sangat tidak terasa
 TT = tidak terasa
 AT = agak terasa
 T = terasa
 ST = sangat terasa

No.	JENIS KELUHAN	TINGKAT KELUHAN				
		STT	TT	AT	T	ST
01.	Kepala sakit			X		
02.	Objek terlihat ganda		X			
03.	Mata penat			X		
04.	Mata berair			X		
05.	Mata kering		X			
06.	Mata perih				X	
07.	Pandangan kabur			X		
08.	Kesalahan membaca			X		

Lampiran 21. Kuisioner Kelelahan Mata Sekarang Pengrajin 2

KUISIONER KELELAHAN MATA

Nama : Supono
 Umur : 40
 Pukul :
 Kondisi : ~~Sebelum Perbaikan~~ / Sesudah Perbaikan
 Petunjuk : Beri tanda silang (X) pada kolom yang sesuai dengan tingkat keluhan yang dirasakan
 Keterangan :
 STT = sangat tidak terasa
 TT = tidak terasa
 AT = agak terasa
 T = terasa
 ST = sangat terasa

No.	JENIS KELUHAN	TINGKAT KELUHAN				
		STT	TT	AT	T	ST
01.	Kepala sakit			✓		
02.	Objek terlihat ganda		✓			
03.	Mata penat			✓		
04.	Mata berair			✓		
05.	Mata kering			✓		
06.	Mata perih			✓		
07.	Pandangan kabur		✓			
08.	Kesalahan membaca		✓	✗		

Lampiran 22. Kuisioner Kelelahan Mata Sekarang Pengrajin 3

KUISIONER KELELAHAN MATA

Nama : Muh. Nazaludin
 Umur : 43 th.
 Pukul :
 Kondisi : Sebelum Perbaikan / Sesudah Perbaikan
 Petunjuk : Beri tanda silang (X) pada kolom yang sesuai dengan tingkat keluhan yang dirasakan
 Keterangan :
 STT = sangat tidak terasa
 TT = tidak terasa
 AT = agak terasa
 T = terasa
 ST = sangat terasa

No.	JENIS KELUHAN	TINGKAT KELUHAN				
		STT	TT	AT	T	ST
01.	Kepala sakit			X		
02.	Objek terlihat ganda				X	
03.	Mata penat			X		
04.	Mata berair		X			
05.	Mata kering		X			
06.	Mata perih		X			
07.	Pandangan kabur		X			
08.	Kesalahan membaca			X		

Lampiran 23. Kuisioner Kelelahan Mata Sekarang Pengrajin 4

KUISIONER KELELAHAN MATA

Nama : Samud
 Umur : 39 tahun
 Pukul :
 Kondisi : ~~Sebelum Perbaikan~~ / Sesudah Perbaikan
 Petunjuk : Beri tanda silang (X) pada kolom yang sesuai dengan tingkat keluhan yang dirasakan
 Keterangan :
 STT = sangat tidak terasa
 TT = tidak terasa
 AT = agak terasa
 T = terasa
 ST = sangat terasa

No.	JENIS KELUHAN	TINGKAT KELUHAN				
		STT	TT	AT	T	ST
01.	Kepala sakit				X	
02.	Objek terlihat ganda		X			
03.	Mata penat				X	
04.	Mata berair			X		
05.	Mata kering			X		
06.	Mata perih			X		
07.	Pandangan kabur		X			
08.	Kesalahan membaca		X			

Lampiran 24. Kuisiener Atribut Pengrajin 1

KUISIONER ATRIBUT PERANCANGAN

Dalam rangka Penelitian Tugas Akhir yang berjudul Perancangan Ulang Fasilitas Kerja Pada Aktivitas Pembuatan Kerajinan Perak di Anggra Silver, maka saya yang melakukan penelitian.

Nama : Frengki Nainggolan
 NPM : 11 06 06689
 Program : Teknik Industri
 Fakultas Teknologi Industri
 Universitas Atma Jaya Yogyakarta

Mohon kesediaan Saudara-saudari untuk mengisi kuisiener berikut. Atas perhatian dan kesediannya saya ucapkan terima kasih.

Nama Pengrajin : YULI priyanto

Usia : 30 th

Berikan tanda (✓) pada kolom skor yang menandakan kepentingan dalam fasilitas kerja yang sesuai. Terdapat 5 kriteria yang dapat dipilih, yaitu sangat tidak penting (skor = 1), tidak penting (skor = 2), cukup penting (skor = 3), penting (skor = 4), sangat penting (skor = 5).

No	Atribut	Skor				
		1	2	3	4	5
1	Sesuai antropometri pengrajin					✓
2	Mereduksi keluhan <i>musculoskeletal</i>					✓
3	Tidak mencederai pengrajin				✓	
4	Tidak mudah rusak					✓
5	Mengurangi kelelahan mata pengrajin				✓	

Lampiran 25. Kuisioner Atribut Pengrajin 2

KUISIONER ATRIBUT PERANCANGAN

Dalam rangka Penelitian Tugas Akhir yang berjudul Perancangan Ulang Fasilitas Kerja Pada Aktivitas Pembuatan Kerajinan Perak di Anggra Silver, maka saya yang melakukan penelitian :

Nama : Frengki Nainggolan
 NPM : 11 06 06689
 Program : Teknik Industri
 Fakultas Teknologi Industri
 Universitas Atma Jaya Yogyakarta

Mohon kesediaan Saudara saudara untuk mengisi kuisioner berikut. Atas perhatian dan kesediannya saya ucapkan terima kasih.

Nama Pengrajin : Supono

Usia : 40

Berikan tanda (√) pada kolom skor yang menandakan kepentingan dalam fasilitas kerja yang sesuai. Terdapat 5 kriteria yang dapat dipilih, yaitu sangat tidak penting (skor = 1), tidak penting (skor = 2), cukup penting (skor = 3), penting (skor = 4), sangat penting (skor = 5).

No	Atribut	Skor				
		1	2	3	4	5
1	Sesuai anthropometri pengrajin				✓	
2	Mereduksi keluhan <i>musculoskeletal</i>					✓
3	Tidak mencederai pengrajin				✓	
4	Tidak mudah rusak				✓	
5	Mengurangi kelelahan mata pengrajin					✓

Lampiran 26. Kuisiener Atribut Pengrajin 3

KUISIONER ATRIBUT PERANCANGAN

Dalam rangka Penelitian Tugas Akhir yang berjudul Perancangan Ulang Fasilitas Kerja Pada Aktivitas Pembuatan Kerajinan Perak di Anggra Silver, maka saya yang melakukan penelitian :

Nama : Frengki Nainggolan
 NPM : 11 06 06689
 Program : Teknik Industri
 Fakultas Teknologi Industri
 Universitas Atma Jaya Yogyakarta

Mohon kesediaan Saudara caudari untuk mengisi kuisiener berikut. Atas perhatian dan kesediannya saya ucapkan terima kasih.

Nama Pengrajin : Supono

Usia : 40

Berikan tanda (√) pada kolom skor yang menandakan kepentingan dalam fasilitas kerja yang sesuai. Terdapat 5 kriteria yang dapat dipilih, yaitu sangat tidak penting (skor = 1), tidak penting (skor = 2), cukup penting (skor = 3), penting (skor = 4), sangat penting (skor = 5).

No	Atribut	Skor				
		1	2	3	4	5
1	Sesuai anthropometri pengrajin				✓	
2	Mereduksi keluhan <i>musculoskeletal</i>					✓
3	Tidak mencederai pengrajin				✓	
4	Tidak mudah rusak				✓	
5	Mengurangi kelelahan mata pengrajin					✓

Lampiran 27. Kuisiener Atribut Pengrajin 4

KUISIONER ATRIBUT PERANCANGAN

Dalam rangka Penelitian Tugas Akhir yang berjudul Perancangan Ulang Fasilitas Kerja Pada Aktivitas Pembuatan Kerajinan Perak di Anggra Silver, maka saya yang melakukan penelitian :

Nama : Frengki Nainggolan
 NPM : 11 06 06689
 Program : Teknik Industri
 Fakultas Teknologi Industri
 Universitas Atma Jaya Yogyakarta

Mohon kesediaan Saudara-saudari untuk mengisi kuisiener berikut. Atas perhatian dan kesediannya saya ucapkan terima kasih.

Nama Pengrajin : *Sampul*
 Usia : *29 th*

Berikan tanda (✓) pada kolom skor yang menandakan kepentingan dalam fasilitas kerja yang sesuai Terdapat 5 kriteria yang dapat dipilih, yaitu sangat tidak penting (skor = 1), tidak penting (skor = 2), cukup penting (skor = 3), penting (skor = 4), sangat penting (skor = 5).

No	Atribut	Skor				
		1	2	3	4	5
1	Sesuai anthropometri pengrajin					✓
2	Mereduksi keluhan <i>musculoskeletal</i>					✓
3	Tidak mencederai pengrajin				✓	
4	Tidak mudah rusak				✓	
5	Mengurangi kelelahan mata pengrajin				✓	

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
If upper arm is raised +1
If arm is extended +2
If arm is bent from the midline -1

Step 2: Locate Lower Arm Position
If lower arm is extended +1
If lower arm is bent from the midline -1

Step 3: Locate Wrist Position
If wrist is bent from the midline -1
If wrist is twisted mainly in mid-range -1
If wrist is twisted at or near end of twisting range +2

Step 4: Adjust...
If action is held for longer than 7 minutes or if action repeatedly occurs at lower per minute or more +1

Step 5: Look-up Posture Score in Table A

Step 6: Add Muscle Use Score
If posture mainly static (i.e. held for longer than 7 minutes) or if action repeatedly occurs at lower per minute or more +1

Step 7: Add Force/load Score
If load is less than 2 kg (4.4 lb) +1
If load is 2 kg to 10 kg (4.4 to 22 lb) +2
If load is 10 kg to 20 kg (22 to 44 lb) +3
If load is 20 kg to 30 kg (44 to 66 lb) +4
If load is 30 kg to 40 kg (66 to 88 lb) +5
If load is 40 kg to 50 kg (88 to 110 lb) +6
If load is 50 kg to 60 kg (110 to 132 lb) +7
If load is 60 kg to 70 kg (132 to 154 lb) +8
If load is 70 kg to 80 kg (154 to 176 lb) +9
If load is 80 kg to 90 kg (176 to 198 lb) +10
If load is 90 kg to 100 kg (198 to 220 lb) +11
If load is 100 kg to 110 kg (220 to 242 lb) +12
If load is 110 kg to 120 kg (242 to 264 lb) +13
If load is 120 kg to 130 kg (264 to 286 lb) +14
If load is 130 kg to 140 kg (286 to 308 lb) +15
If load is 140 kg to 150 kg (308 to 330 lb) +16
If load is 150 kg to 160 kg (330 to 352 lb) +17
If load is 160 kg to 170 kg (352 to 374 lb) +18
If load is 170 kg to 180 kg (374 to 396 lb) +19
If load is 180 kg to 190 kg (396 to 418 lb) +20
If load is 190 kg to 200 kg (418 to 440 lb) +21
If load is 200 kg to 210 kg (440 to 462 lb) +22
If load is 210 kg to 220 kg (462 to 484 lb) +23
If load is 220 kg to 230 kg (484 to 506 lb) +24
If load is 230 kg to 240 kg (506 to 528 lb) +25
If load is 240 kg to 250 kg (528 to 550 lb) +26
If load is 250 kg to 260 kg (550 to 572 lb) +27
If load is 260 kg to 270 kg (572 to 594 lb) +28
If load is 270 kg to 280 kg (594 to 616 lb) +29
If load is 280 kg to 290 kg (616 to 638 lb) +30
If load is 290 kg to 300 kg (638 to 660 lb) +31
If load is 300 kg to 310 kg (660 to 682 lb) +32
If load is 310 kg to 320 kg (682 to 704 lb) +33
If load is 320 kg to 330 kg (704 to 726 lb) +34
If load is 330 kg to 340 kg (726 to 748 lb) +35
If load is 340 kg to 350 kg (748 to 770 lb) +36
If load is 350 kg to 360 kg (770 to 792 lb) +37
If load is 360 kg to 370 kg (792 to 814 lb) +38
If load is 370 kg to 380 kg (814 to 836 lb) +39
If load is 380 kg to 390 kg (836 to 858 lb) +40
If load is 390 kg to 400 kg (858 to 880 lb) +41
If load is 400 kg to 410 kg (880 to 902 lb) +42
If load is 410 kg to 420 kg (902 to 924 lb) +43
If load is 420 kg to 430 kg (924 to 946 lb) +44
If load is 430 kg to 440 kg (946 to 968 lb) +45
If load is 440 kg to 450 kg (968 to 990 lb) +46
If load is 450 kg to 460 kg (990 to 1012 lb) +47
If load is 460 kg to 470 kg (1012 to 1034 lb) +48
If load is 470 kg to 480 kg (1034 to 1056 lb) +49
If load is 480 kg to 490 kg (1056 to 1078 lb) +50
If load is 490 kg to 500 kg (1078 to 1100 lb) +51
If load is 500 kg to 510 kg (1100 to 1122 lb) +52
If load is 510 kg to 520 kg (1122 to 1144 lb) +53
If load is 520 kg to 530 kg (1144 to 1166 lb) +54
If load is 530 kg to 540 kg (1166 to 1188 lb) +55
If load is 540 kg to 550 kg (1188 to 1210 lb) +56
If load is 550 kg to 560 kg (1210 to 1232 lb) +57
If load is 560 kg to 570 kg (1232 to 1254 lb) +58
If load is 570 kg to 580 kg (1254 to 1276 lb) +59
If load is 580 kg to 590 kg (1276 to 1298 lb) +60
If load is 590 kg to 600 kg (1298 to 1320 lb) +61
If load is 600 kg to 610 kg (1320 to 1342 lb) +62
If load is 610 kg to 620 kg (1342 to 1364 lb) +63
If load is 620 kg to 630 kg (1364 to 1386 lb) +64
If load is 630 kg to 640 kg (1386 to 1408 lb) +65
If load is 640 kg to 650 kg (1408 to 1430 lb) +66
If load is 650 kg to 660 kg (1430 to 1452 lb) +67
If load is 660 kg to 670 kg (1452 to 1474 lb) +68
If load is 670 kg to 680 kg (1474 to 1496 lb) +69
If load is 680 kg to 690 kg (1496 to 1518 lb) +70
If load is 690 kg to 700 kg (1518 to 1540 lb) +71
If load is 700 kg to 710 kg (1540 to 1562 lb) +72
If load is 710 kg to 720 kg (1562 to 1584 lb) +73
If load is 720 kg to 730 kg (1584 to 1606 lb) +74
If load is 730 kg to 740 kg (1606 to 1628 lb) +75
If load is 740 kg to 750 kg (1628 to 1650 lb) +76
If load is 750 kg to 760 kg (1650 to 1672 lb) +77
If load is 760 kg to 770 kg (1672 to 1694 lb) +78
If load is 770 kg to 780 kg (1694 to 1716 lb) +79
If load is 780 kg to 790 kg (1716 to 1738 lb) +80
If load is 790 kg to 800 kg (1738 to 1760 lb) +81
If load is 800 kg to 810 kg (1760 to 1782 lb) +82
If load is 810 kg to 820 kg (1782 to 1804 lb) +83
If load is 820 kg to 830 kg (1804 to 1826 lb) +84
If load is 830 kg to 840 kg (1826 to 1848 lb) +85
If load is 840 kg to 850 kg (1848 to 1870 lb) +86
If load is 850 kg to 860 kg (1870 to 1892 lb) +87
If load is 860 kg to 870 kg (1892 to 1914 lb) +88
If load is 870 kg to 880 kg (1914 to 1936 lb) +89
If load is 880 kg to 890 kg (1936 to 1958 lb) +90
If load is 890 kg to 900 kg (1958 to 1980 lb) +91
If load is 900 kg to 910 kg (1980 to 2002 lb) +92
If load is 910 kg to 920 kg (2002 to 2024 lb) +93
If load is 920 kg to 930 kg (2024 to 2046 lb) +94
If load is 930 kg to 940 kg (2046 to 2068 lb) +95
If load is 940 kg to 950 kg (2068 to 2090 lb) +96
If load is 950 kg to 960 kg (2090 to 2112 lb) +97
If load is 960 kg to 970 kg (2112 to 2134 lb) +98
If load is 970 kg to 980 kg (2134 to 2156 lb) +99
If load is 980 kg to 990 kg (2156 to 2178 lb) +100
If load is 990 kg to 1000 kg (2178 to 2200 lb) +101

Step 8: Find Row in Table C

Step 9: Find Column in Table C

Step 10: Adjust...
If trunk is held in a static position for longer than 7 minutes or if action repeatedly occurs at lower per minute or more +1

Step 11: Adjust...
If legs are held in a static position for longer than 7 minutes or if action repeatedly occurs at lower per minute or more +1

Step 12: Look-up Posture Score in Table B

Step 13: Add Muscle Use Score
If posture mainly static (i.e. held for longer than 7 minutes) or if action repeatedly occurs at lower per minute or more +1

Step 14: Add Force/load Score
If load is less than 2 kg (4.4 lb) +1
If load is 2 kg to 10 kg (4.4 to 22 lb) +2
If load is 10 kg to 20 kg (22 to 44 lb) +3
If load is 20 kg to 30 kg (44 to 66 lb) +4
If load is 30 kg to 40 kg (66 to 88 lb) +5
If load is 40 kg to 50 kg (88 to 110 lb) +6
If load is 50 kg to 60 kg (110 to 132 lb) +7
If load is 60 kg to 70 kg (132 to 154 lb) +8
If load is 70 kg to 80 kg (154 to 176 lb) +9
If load is 80 kg to 90 kg (176 to 198 lb) +10
If load is 90 kg to 100 kg (198 to 220 lb) +11
If load is 100 kg to 110 kg (220 to 242 lb) +12
If load is 110 kg to 120 kg (242 to 264 lb) +13
If load is 120 kg to 130 kg (264 to 286 lb) +14
If load is 130 kg to 140 kg (286 to 308 lb) +15
If load is 140 kg to 150 kg (308 to 330 lb) +16
If load is 150 kg to 160 kg (330 to 352 lb) +17
If load is 160 kg to 170 kg (352 to 374 lb) +18
If load is 170 kg to 180 kg (374 to 396 lb) +19
If load is 180 kg to 190 kg (396 to 418 lb) +20
If load is 190 kg to 200 kg (418 to 440 lb) +21
If load is 200 kg to 210 kg (440 to 462 lb) +22
If load is 210 kg to 220 kg (462 to 484 lb) +23
If load is 220 kg to 230 kg (484 to 506 lb) +24
If load is 230 kg to 240 kg (506 to 528 lb) +25
If load is 240 kg to 250 kg (528 to 550 lb) +26
If load is 250 kg to 260 kg (550 to 572 lb) +27
If load is 260 kg to 270 kg (572 to 594 lb) +28
If load is 270 kg to 280 kg (594 to 616 lb) +29
If load is 280 kg to 290 kg (616 to 638 lb) +30
If load is 290 kg to 300 kg (638 to 660 lb) +31
If load is 300 kg to 310 kg (660 to 682 lb) +32
If load is 310 kg to 320 kg (682 to 704 lb) +33
If load is 320 kg to 330 kg (704 to 726 lb) +34
If load is 330 kg to 340 kg (726 to 748 lb) +35
If load is 340 kg to 350 kg (748 to 770 lb) +36
If load is 350 kg to 360 kg (770 to 792 lb) +37
If load is 360 kg to 370 kg (792 to 814 lb) +38
If load is 370 kg to 380 kg (814 to 836 lb) +39
If load is 380 kg to 390 kg (836 to 858 lb) +40
If load is 390 kg to 400 kg (858 to 880 lb) +41
If load is 400 kg to 410 kg (880 to 902 lb) +42
If load is 410 kg to 420 kg (902 to 924 lb) +43
If load is 420 kg to 430 kg (924 to 946 lb) +44
If load is 430 kg to 440 kg (946 to 968 lb) +45
If load is 440 kg to 450 kg (968 to 990 lb) +46
If load is 450 kg to 460 kg (990 to 1012 lb) +47
If load is 460 kg to 470 kg (1012 to 1034 lb) +48
If load is 470 kg to 480 kg (1034 to 1056 lb) +49
If load is 480 kg to 490 kg (1056 to 1078 lb) +50
If load is 490 kg to 500 kg (1078 to 1100 lb) +51
If load is 500 kg to 510 kg (1100 to 1122 lb) +52
If load is 510 kg to 520 kg (1122 to 1144 lb) +53
If load is 520 kg to 530 kg (1144 to 1166 lb) +54
If load is 530 kg to 540 kg (1166 to 1188 lb) +55
If load is 540 kg to 550 kg (1188 to 1210 lb) +56
If load is 550 kg to 560 kg (1210 to 1232 lb) +57
If load is 560 kg to 570 kg (1232 to 1254 lb) +58
If load is 570 kg to 580 kg (1254 to 1276 lb) +59
If load is 580 kg to 590 kg (1276 to 1298 lb) +60
If load is 590 kg to 600 kg (1298 to 1320 lb) +61
If load is 600 kg to 610 kg (1320 to 1342 lb) +62
If load is 610 kg to 620 kg (1342 to 1364 lb) +63
If load is 620 kg to 630 kg (1364 to 1386 lb) +64
If load is 630 kg to 640 kg (1386 to 1408 lb) +65
If load is 640 kg to 650 kg (1408 to 1430 lb) +66
If load is 650 kg to 660 kg (1430 to 1452 lb) +67
If load is 660 kg to 670 kg (1452 to 1474 lb) +68
If load is 670 kg to 680 kg (1474 to 1496 lb) +69
If load is 680 kg to 690 kg (1496 to 1518 lb) +70
If load is 690 kg to 700 kg (1518 to 1540 lb) +71
If load is 700 kg to 710 kg (1540 to 1562 lb) +72
If load is 710 kg to 720 kg (1562 to 1584 lb) +73
If load is 720 kg to 730 kg (1584 to 1606 lb) +74
If load is 730 kg to 740 kg (1606 to 1628 lb) +75
If load is 740 kg to 750 kg (1628 to 1650 lb) +76
If load is 750 kg to 760 kg (1650 to 1672 lb) +77
If load is 760 kg to 770 kg (1672 to 1694 lb) +78
If load is 770 kg to 780 kg (1694 to 1716 lb) +79
If load is 780 kg to 790 kg (1716 to 1738 lb) +80
If load is 790 kg to 800 kg (1738 to 1760 lb) +81
If load is 800 kg to 810 kg (1760 to 1782 lb) +82
If load is 810 kg to 820 kg (1782 to 1804 lb) +83
If load is 820 kg to 830 kg (1804 to 1826 lb) +84
If load is 830 kg to 840 kg (1826 to 1848 lb) +85
If load is 840 kg to 850 kg (1848 to 1870 lb) +86
If load is 850 kg to 860 kg (1870 to 1892 lb) +87
If load is 860 kg to 870 kg (1892 to 1914 lb) +88
If load is 870 kg to 880 kg (1914 to 1936 lb) +89
If load is 880 kg to 890 kg (1936 to 1958 lb) +90
If load is 890 kg to 900 kg (1958 to 1980 lb) +91
If load is 900 kg to 910 kg (1980 to 2002 lb) +92
If load is 910 kg to 920 kg (2002 to 2024 lb) +93
If load is 920 kg to 930 kg (2024 to 2046 lb) +94
If load is 930 kg to 940 kg (2046 to 2068 lb) +95
If load is 940 kg to 950 kg (2068 to 2090 lb) +96
If load is 950 kg to 960 kg (2090 to 2112 lb) +97
If load is 960 kg to 970 kg (2112 to 2134 lb) +98
If load is 970 kg to 980 kg (2134 to 2156 lb) +99
If load is 980 kg to 990 kg (2156 to 2178 lb) +100
If load is 990 kg to 1000 kg (2178 to 2200 lb) +101

Step 15: Find Column in Table C

Final Score = 7

Subject: Yuli, Yogan, Yogan
Company: Anggra, Rina
Department: Remon, Fan
Date: / /
Scorer: / /

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 Investigate further; 5 or 6 Investigate further and change soon; 7 Investigate and change immediately

Source: McCauley, L. & Corbin, E.N. (1993) RULA: a survey method for the investigation of work-related upper limb disorders, *Applied Ergonomics*, 24(2) 91-99.

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RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
 -20° to +20° = 0
 20° to 40° = +1
 40° to 60° = +2
 60° to 90° = +3
 If shoulder is twisted +1
 If arm is abducted +1
 If hand is pronated +1

Step 2: Locate Lower Arm Position
 -20° to +20° = 0
 20° to 40° = +1
 40° to 60° = +2
 60° to 90° = +3
 If wrist is twisted +1
 If hand is pronated +1

Step 3: Locate Wrist Position
 -10° to +10° = 0
 10° to 20° = +1
 20° to 30° = +2
 30° to 40° = +3
 If wrist is bent from the middle +1
 If wrist is twisted +1

Step 4: Wrist Twist
 If wrist is twisted +1
 If wrist is bent from the middle +1

Step 5: Look-up Posture Score in Table A
 Use values from rows 1, 2, 3 & 4 to locate Posture Score in Table A

Step 6: Add Muscle Use Score
 If posture mainly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more +1
 If posture mainly static or if action repeatedly occurs 4 times per minute or more +1

Step 7: Add Forceful Score
 If 2 kg to 10 kg (push or pull) +1
 If 2 kg to 10 kg (hold or support) +1
 If 2 kg to 10 kg (lift or carry) +1
 If 2 kg to 10 kg (other) +1

Step 8: Find Row in Table C
 The combined score from the Arm, Wrist, Muscle Use, Forceful, and Posture scores is used to find the row in Table C

Final Score = 7

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position
 0° to 10° = 0
 10° to 20° = +1
 20° to 30° = +2
 30° to 40° = +3
 If neck is twisted +1
 If neck is bent +1

Step 10: Adjust...
 If neck is twisted +1
 If neck is bent +1

Step 11: Locate Trunk Position
 0° to 10° = 0
 10° to 20° = +1
 20° to 30° = +2
 30° to 40° = +3
 If trunk is twisted +1
 If trunk is bent +1

Step 12: Adjust...
 If trunk is twisted +1
 If trunk is bent +1

Step 13: Locate Leg Position
 0° to 10° = 0
 10° to 20° = +1
 20° to 30° = +2
 30° to 40° = +3
 If leg is twisted +1
 If leg is bent +1

Step 14: Adjust...
 If leg is twisted +1
 If leg is bent +1

Step 15: Find Column in Table C
 The combined score from the Neck, Trunk, and Leg scores is used to find the column in Table C

Final Score = 7

Table A

Upper Arm	Lower Arm	Wrist	Wrist Twist	Posture	Muscle Use	Forceful
0	0	0	0	1	1	1
0	0	0	0	2	1	1
0	0	0	0	3	1	1
0	0	0	0	4	1	1
0	0	0	0	5	1	1
0	0	0	0	6	1	1
0	0	0	0	7	1	1
0	0	0	0	8	1	1
0	0	0	0	9	1	1
0	0	0	0	10	1	1
0	0	0	0	11	1	1
0	0	0	0	12	1	1
0	0	0	0	13	1	1
0	0	0	0	14	1	1
0	0	0	0	15	1	1
0	0	0	0	16	1	1
0	0	0	0	17	1	1
0	0	0	0	18	1	1
0	0	0	0	19	1	1
0	0	0	0	20	1	1
0	0	0	0	21	1	1
0	0	0	0	22	1	1
0	0	0	0	23	1	1
0	0	0	0	24	1	1
0	0	0	0	25	1	1
0	0	0	0	26	1	1
0	0	0	0	27	1	1
0	0	0	0	28	1	1
0	0	0	0	29	1	1
0	0	0	0	30	1	1
0	0	0	0	31	1	1
0	0	0	0	32	1	1
0	0	0	0	33	1	1
0	0	0	0	34	1	1
0	0	0	0	35	1	1
0	0	0	0	36	1	1
0	0	0	0	37	1	1
0	0	0	0	38	1	1
0	0	0	0	39	1	1
0	0	0	0	40	1	1
0	0	0	0	41	1	1
0	0	0	0	42	1	1
0	0	0	0	43	1	1
0	0	0	0	44	1	1
0	0	0	0	45	1	1
0	0	0	0	46	1	1
0	0	0	0	47	1	1
0	0	0	0	48	1	1
0	0	0	0	49	1	1
0	0	0	0	50	1	1
0	0	0	0	51	1	1
0	0	0	0	52	1	1
0	0	0	0	53	1	1
0	0	0	0	54	1	1
0	0	0	0	55	1	1
0	0	0	0	56	1	1
0	0	0	0	57	1	1
0	0	0	0	58	1	1
0	0	0	0	59	1	1
0	0	0	0	60	1	1
0	0	0	0	61	1	1
0	0	0	0	62	1	1
0	0	0	0	63	1	1
0	0	0	0	64	1	1
0	0	0	0	65	1	1
0	0	0	0	66	1	1
0	0	0	0	67	1	1
0	0	0	0	68	1	1
0	0	0	0	69	1	1
0	0	0	0	70	1	1
0	0	0	0	71	1	1
0	0	0	0	72	1	1
0	0	0	0	73	1	1
0	0	0	0	74	1	1
0	0	0	0	75	1	1
0	0	0	0	76	1	1
0	0	0	0	77	1	1
0	0	0	0	78	1	1
0	0	0	0	79	1	1
0	0	0	0	80	1	1
0	0	0	0	81	1	1
0	0	0	0	82	1	1
0	0	0	0	83	1	1
0	0	0	0	84	1	1
0	0	0	0	85	1	1
0	0	0	0	86	1	1
0	0	0	0	87	1	1
0	0	0	0	88	1	1
0	0	0	0	89	1	1
0	0	0	0	90	1	1
0	0	0	0	91	1	1
0	0	0	0	92	1	1
0	0	0	0	93	1	1
0	0	0	0	94	1	1
0	0	0	0	95	1	1
0	0	0	0	96	1	1
0	0	0	0	97	1	1
0	0	0	0	98	1	1
0	0	0	0	99	1	1
0	0	0	0	100	1	1

Table B

Neck	Trunk	Legs
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
37	37	37
38	38	38
39	39	39
40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
50	50	50
51	51	51
52	52	52
53	53	53
54	54	54
55	55	55
56	56	56
57	57	57
58	58	58
59	59	59
60	60	60
61	61	61
62	62	62
63	63	63
64	64	64
65	65	65
66	66	66
67	67	67
68	68	68
69	69	69
70	70	70
71	71	71
72	72	72
73	73	73
74	74	74
75	75	75
76	76	76
77	77	77
78	78	78
79	79	79
80	80	80
81	81	81
82	82	82
83	83	83
84	84	84
85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

Table C

Neck	Trunk	Legs
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
37	37	37
38	38	38
39	39	39
40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
50	50	50
51	51	51
52	52	52
53	53	53
54	54	54
55	55	55
56	56	56
57	57	57
58	58	58
59	59	59
60	60	60
61	61	61
62	62	62
63	63	63
64	64	64
65	65	65
66	66	66
67	67	67
68	68	68
69	69	69
70	70	70
71	71	71
72	72	72
73	73	73
74	74	74
75	75	75
76	76	76
77	77	77
78	78	78
79	79	79
80	80	80
81	81	81
82	82	82
83	83	83
84	84	84
85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

Final Score = 7

Subject: Yuli, Bagikan, Kiri
Company: Anggren Silver
Department: Amahfan
Scorer: Frengci
Date: 1/1/2023

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 investigate further; 5 or 6 investigate further and change soon; 7 investigate and change immediately
 Source: McAtamney, L. & Corlett, E.N. (1993). RULA: a survey method for the investigation of work-related upper limb disorders. *Applied Ergonomics*, 24(2) 91-99.
 © Professor Alan Hedge, Concord University, Feb. 2001

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position

 0 to 180°
 If upper arm is abducted or extended, +1
 If arm is abducted or extended, +1

Step 2: Locate Lower Arm Position

 0 to 180°
 If forearm is pronated, +1
 If forearm is supinated, +1

Step 3: Locate Wrist Position

 0 to 180°
 If wrist is bent from the midline, +1
 If wrist is twisted, +1

Step 4: Wrist Twist
 If wrist is twisted, +1
 If wrist is bent from the midline, +1

Step 5: Look-up Posture Score in Table A
 Use values from Table A to locate Posture Score in Table A.

Step 6: Add Muscle Use Score
 If forearm nearly static (i.e., held for longer than 1 minute), +1
 If action repeatedly occurs, +1
 If action is forceful, +1

Step 7: Add ForceLoad Score
 If load is less than 2 kg (4.4 lb), +1
 If load is 2 kg to 5 kg (4.4 to 11 lb), +2
 If load is 5 kg to 10 kg (11 to 22 lb), +3
 If load is 10 kg to 15 kg (22 to 33 lb), +4
 If load is 15 kg to 20 kg (33 to 44 lb), +5
 If load is 20 kg to 25 kg (44 to 55 lb), +6
 If load is 25 kg to 30 kg (55 to 66 lb), +7
 If load is 30 kg to 35 kg (66 to 77 lb), +8
 If load is 35 kg to 40 kg (77 to 88 lb), +9
 If load is 40 kg to 45 kg (88 to 99 lb), +10
 If load is 45 kg to 50 kg (99 to 110 lb), +11
 If load is 50 kg to 55 kg (110 to 121 lb), +12
 If load is 55 kg to 60 kg (121 to 132 lb), +13
 If load is 60 kg to 65 kg (132 to 143 lb), +14
 If load is 65 kg to 70 kg (143 to 154 lb), +15
 If load is 70 kg to 75 kg (154 to 165 lb), +16
 If load is 75 kg to 80 kg (165 to 176 lb), +17
 If load is 80 kg to 85 kg (176 to 187 lb), +18
 If load is 85 kg to 90 kg (187 to 198 lb), +19
 If load is 90 kg to 95 kg (198 to 209 lb), +20
 If load is 95 kg to 100 kg (209 to 220 lb), +21
 If load is 100 kg to 105 kg (220 to 231 lb), +22
 If load is 105 kg to 110 kg (231 to 242 lb), +23
 If load is 110 kg to 115 kg (242 to 253 lb), +24
 If load is 115 kg to 120 kg (253 to 264 lb), +25
 If load is 120 kg to 125 kg (264 to 275 lb), +26
 If load is 125 kg to 130 kg (275 to 286 lb), +27
 If load is 130 kg to 135 kg (286 to 297 lb), +28
 If load is 135 kg to 140 kg (297 to 308 lb), +29
 If load is 140 kg to 145 kg (308 to 319 lb), +30
 If load is 145 kg to 150 kg (319 to 330 lb), +31
 If load is 150 kg to 155 kg (330 to 341 lb), +32
 If load is 155 kg to 160 kg (341 to 352 lb), +33
 If load is 160 kg to 165 kg (352 to 363 lb), +34
 If load is 165 kg to 170 kg (363 to 374 lb), +35
 If load is 170 kg to 175 kg (374 to 385 lb), +36
 If load is 175 kg to 180 kg (385 to 396 lb), +37
 If load is 180 kg to 185 kg (396 to 407 lb), +38
 If load is 185 kg to 190 kg (407 to 418 lb), +39
 If load is 190 kg to 195 kg (418 to 429 lb), +40
 If load is 195 kg to 200 kg (429 to 440 lb), +41
 If load is 200 kg to 205 kg (440 to 451 lb), +42
 If load is 205 kg to 210 kg (451 to 462 lb), +43
 If load is 210 kg to 215 kg (462 to 473 lb), +44
 If load is 215 kg to 220 kg (473 to 484 lb), +45
 If load is 220 kg to 225 kg (484 to 495 lb), +46
 If load is 225 kg to 230 kg (495 to 506 lb), +47
 If load is 230 kg to 235 kg (506 to 517 lb), +48
 If load is 235 kg to 240 kg (517 to 528 lb), +49
 If load is 240 kg to 245 kg (528 to 539 lb), +50
 If load is 245 kg to 250 kg (539 to 550 lb), +51
 If load is 250 kg to 255 kg (550 to 561 lb), +52
 If load is 255 kg to 260 kg (561 to 572 lb), +53
 If load is 260 kg to 265 kg (572 to 583 lb), +54
 If load is 265 kg to 270 kg (583 to 594 lb), +55
 If load is 270 kg to 275 kg (594 to 605 lb), +56
 If load is 275 kg to 280 kg (605 to 616 lb), +57
 If load is 280 kg to 285 kg (616 to 627 lb), +58
 If load is 285 kg to 290 kg (627 to 638 lb), +59
 If load is 290 kg to 295 kg (638 to 649 lb), +60
 If load is 295 kg to 300 kg (649 to 660 lb), +61
 If load is 300 kg to 305 kg (660 to 671 lb), +62
 If load is 305 kg to 310 kg (671 to 682 lb), +63
 If load is 310 kg to 315 kg (682 to 693 lb), +64
 If load is 315 kg to 320 kg (693 to 704 lb), +65
 If load is 320 kg to 325 kg (704 to 715 lb), +66
 If load is 325 kg to 330 kg (715 to 726 lb), +67
 If load is 330 kg to 335 kg (726 to 737 lb), +68
 If load is 335 kg to 340 kg (737 to 748 lb), +69
 If load is 340 kg to 345 kg (748 to 759 lb), +70
 If load is 345 kg to 350 kg (759 to 770 lb), +71
 If load is 350 kg to 355 kg (770 to 781 lb), +72
 If load is 355 kg to 360 kg (781 to 792 lb), +73
 If load is 360 kg to 365 kg (792 to 803 lb), +74
 If load is 365 kg to 370 kg (803 to 814 lb), +75
 If load is 370 kg to 375 kg (814 to 825 lb), +76
 If load is 375 kg to 380 kg (825 to 836 lb), +77
 If load is 380 kg to 385 kg (836 to 847 lb), +78
 If load is 385 kg to 390 kg (847 to 858 lb), +79
 If load is 390 kg to 395 kg (858 to 869 lb), +80
 If load is 395 kg to 400 kg (869 to 880 lb), +81
 If load is 400 kg to 405 kg (880 to 891 lb), +82
 If load is 405 kg to 410 kg (891 to 902 lb), +83
 If load is 410 kg to 415 kg (902 to 913 lb), +84
 If load is 415 kg to 420 kg (913 to 924 lb), +85
 If load is 420 kg to 425 kg (924 to 935 lb), +86
 If load is 425 kg to 430 kg (935 to 946 lb), +87
 If load is 430 kg to 435 kg (946 to 957 lb), +88
 If load is 435 kg to 440 kg (957 to 968 lb), +89
 If load is 440 kg to 445 kg (968 to 979 lb), +90
 If load is 445 kg to 450 kg (979 to 990 lb), +91
 If load is 450 kg to 455 kg (990 to 1001 lb), +92
 If load is 455 kg to 460 kg (1001 to 1012 lb), +93
 If load is 460 kg to 465 kg (1012 to 1023 lb), +94
 If load is 465 kg to 470 kg (1023 to 1034 lb), +95
 If load is 470 kg to 475 kg (1034 to 1045 lb), +96
 If load is 475 kg to 480 kg (1045 to 1056 lb), +97
 If load is 480 kg to 485 kg (1056 to 1067 lb), +98
 If load is 485 kg to 490 kg (1067 to 1078 lb), +99
 If load is 490 kg to 495 kg (1078 to 1089 lb), +100
 If load is 495 kg to 500 kg (1089 to 1100 lb), +101
 If load is 500 kg to 505 kg (1100 to 1111 lb), +102
 If load is 505 kg to 510 kg (1111 to 1122 lb), +103
 If load is 510 kg to 515 kg (1122 to 1133 lb), +104
 If load is 515 kg to 520 kg (1133 to 1144 lb), +105
 If load is 520 kg to 525 kg (1144 to 1155 lb), +106
 If load is 525 kg to 530 kg (1155 to 1166 lb), +107
 If load is 530 kg to 535 kg (1166 to 1177 lb), +108
 If load is 535 kg to 540 kg (1177 to 1188 lb), +109
 If load is 540 kg to 545 kg (1188 to 1199 lb), +110
 If load is 545 kg to 550 kg (1199 to 1210 lb), +111
 If load is 550 kg to 555 kg (1210 to 1221 lb), +112
 If load is 555 kg to 560 kg (1221 to 1232 lb), +113
 If load is 560 kg to 565 kg (1232 to 1243 lb), +114
 If load is 565 kg to 570 kg (1243 to 1254 lb), +115
 If load is 570 kg to 575 kg (1254 to 1265 lb), +116
 If load is 575 kg to 580 kg (1265 to 1276 lb), +117
 If load is 580 kg to 585 kg (1276 to 1287 lb), +118
 If load is 585 kg to 590 kg (1287 to 1298 lb), +119
 If load is 590 kg to 595 kg (1298 to 1309 lb), +120
 If load is 595 kg to 600 kg (1309 to 1320 lb), +121
 If load is 600 kg to 605 kg (1320 to 1331 lb), +122
 If load is 605 kg to 610 kg (1331 to 1342 lb), +123
 If load is 610 kg to 615 kg (1342 to 1353 lb), +124
 If load is 615 kg to 620 kg (1353 to 1364 lb), +125
 If load is 620 kg to 625 kg (1364 to 1375 lb), +126
 If load is 625 kg to 630 kg (1375 to 1386 lb), +127
 If load is 630 kg to 635 kg (1386 to 1397 lb), +128
 If load is 635 kg to 640 kg (1397 to 1408 lb), +129
 If load is 640 kg to 645 kg (1408 to 1419 lb), +130
 If load is 645 kg to 650 kg (1419 to 1430 lb), +131
 If load is 650 kg to 655 kg (1430 to 1441 lb), +132
 If load is 655 kg to 660 kg (1441 to 1452 lb), +133
 If load is 660 kg to 665 kg (1452 to 1463 lb), +134
 If load is 665 kg to 670 kg (1463 to 1474 lb), +135
 If load is 670 kg to 675 kg (1474 to 1485 lb), +136
 If load is 675 kg to 680 kg (1485 to 1496 lb), +137
 If load is 680 kg to 685 kg (1496 to 1507 lb), +138
 If load is 685 kg to 690 kg (1507 to 1518 lb), +139
 If load is 690 kg to 695 kg (1518 to 1529 lb), +140
 If load is 695 kg to 700 kg (1529 to 1540 lb), +141
 If load is 700 kg to 705 kg (1540 to 1551 lb), +142
 If load is 705 kg to 710 kg (1551 to 1562 lb), +143
 If load is 710 kg to 715 kg (1562 to 1573 lb), +144
 If load is 715 kg to 720 kg (1573 to 1584 lb), +145
 If load is 720 kg to 725 kg (1584 to 1595 lb), +146
 If load is 725 kg to 730 kg (1595 to 1606 lb), +147
 If load is 730 kg to 735 kg (1606 to 1617 lb), +148
 If load is 735 kg to 740 kg (1617 to 1628 lb), +149
 If load is 740 kg to 745 kg (1628 to 1639 lb), +150
 If load is 745 kg to 750 kg (1639 to 1650 lb), +151
 If load is 750 kg to 755 kg (1650 to 1661 lb), +152
 If load is 755 kg to 760 kg (1661 to 1672 lb), +153
 If load is 760 kg to 765 kg (1672 to 1683 lb), +154
 If load is 765 kg to 770 kg (1683 to 1694 lb), +155
 If load is 770 kg to 775 kg (1694 to 1705 lb), +156
 If load is 775 kg to 780 kg (1705 to 1716 lb), +157
 If load is 780 kg to 785 kg (1716 to 1727 lb), +158
 If load is 785 kg to 790 kg (1727 to 1738 lb), +159
 If load is 790 kg to 795 kg (1738 to 1749 lb), +160
 If load is 795 kg to 800 kg (1749 to 1760 lb), +161
 If load is 800 kg to 805 kg (1760 to 1771 lb), +162
 If load is 805 kg to 810 kg (1771 to 1782 lb), +163
 If load is 810 kg to 815 kg (1782 to 1793 lb), +164
 If load is 815 kg to 820 kg (1793 to 1804 lb), +165
 If load is 820 kg to 825 kg (1804 to 1815 lb), +166
 If load is 825 kg to 830 kg (1815 to 1826 lb), +167
 If load is 830 kg to 835 kg (1826 to 1837 lb), +168
 If load is 835 kg to 840 kg (1837 to 1848 lb), +169
 If load is 840 kg to 845 kg (1848 to 1859 lb), +170
 If load is 845 kg to 850 kg (1859 to 1870 lb), +171
 If load is 850 kg to 855 kg (1870 to 1881 lb), +172
 If load is 855 kg to 860 kg (1881 to 1892 lb), +173
 If load is 860 kg to 865 kg (1892 to 1903 lb), +174
 If load is 865 kg to 870 kg (1903 to 1914 lb), +175
 If load is 870 kg to 875 kg (1914 to 1925 lb), +176
 If load is 875 kg to 880 kg (1925 to 1936 lb), +177
 If load is 880 kg to 885 kg (1936 to 1947 lb), +178
 If load is 885 kg to 890 kg (1947 to 1958 lb), +179
 If load is 890 kg to 895 kg (1958 to 1969 lb), +180
 If load is 895 kg to 900 kg (1969 to 1980 lb), +181
 If load is 900 kg to 905 kg (1980 to 1991 lb), +182
 If load is 905 kg to 910 kg (1991 to 2002 lb), +183
 If load is 910 kg to 915 kg (2002 to 2013 lb), +184
 If load is 915 kg to 920 kg (2013 to 2024 lb), +185
 If load is 920 kg to 925 kg (2024 to 2035 lb), +186
 If load is 925 kg to 930 kg (2035 to 2046 lb), +187
 If load is 930 kg to 935 kg (2046 to 2057 lb), +188
 If load is 935 kg to 940 kg (2057 to 2068 lb), +189
 If load is 940 kg to 945 kg (2068 to 2079 lb), +190
 If load is 945 kg to 950 kg (2079 to 2090 lb), +191
 If load is 950 kg to 955 kg (2090 to 2101 lb), +192
 If load is 955 kg to 960 kg (2101 to 2112 lb), +193
 If load is 960 kg to 965 kg (2112 to 2123 lb), +194
 If load is 965 kg to 970 kg (2123 to 2134 lb), +195
 If load is 970 kg to 975 kg (2134 to 2145 lb), +196
 If load is 975 kg to 980 kg (2145 to 2156 lb), +197
 If load is 980 kg to 985 kg (2156 to 2167 lb), +198
 If load is 985 kg to 990 kg (2167 to 2178 lb), +199
 If load is 990 kg to 995 kg (2178 to 2189 lb), +200
 If load is 995 kg to 1000 kg (2189 to 2200 lb), +201
 If load is 1000 kg to 1005 kg (2200 to 2211 lb), +202
 If load is 1005 kg to 1010 kg (2211 to 2222 lb), +203
 If load is 1010 kg to 1015 kg (2222 to 2233 lb), +204
 If load is 1015 kg to 1020 kg (2233 to 2244 lb), +205
 If load is 1020 kg to 1025 kg (2244 to 2255 lb), +206
 If load is 1025 kg to 1030 kg (2255 to 2266 lb), +207
 If load is 1030 kg to 1035 kg (2266 to 2277 lb), +208
 If load is 1035 kg to 1040 kg (2277 to 2288 lb), +209
 If load is 1040 kg to 1045 kg (2288 to 2299 lb), +210
 If load is 1045 kg to 1050 kg (2299 to 2310 lb), +211
 If load is 1050 kg to 1055 kg (2310 to 2321 lb), +212
 If load is 1055 kg to 1060 kg (2321 to 2332 lb), +213
 If load is 1060 kg to 1065 kg (2332 to 2343 lb), +214
 If load is 1065 kg to 1070 kg (2343 to 2354 lb), +215
 If load is 1070 kg to 1075 kg (2354 to 2365 lb), +216
 If load is 1075 kg to 1080 kg (2365 to 2376 lb), +217
 If load is 1080 kg to 1085 kg (2376 to 2387 lb), +218
 If load is 1085 kg to 1090 kg (2387 to 2398 lb), +219
 If load is 1090 kg to 1095 kg (2398 to 2409 lb), +220
 If load is 1095 kg to 1100 kg (2409 to 2420 lb), +221
 If load is 1100 kg to 1105 kg (2420 to 2431 lb), +222
 If load is 1105 kg to 1110 kg (2431 to 2442 lb), +223
 If load is 1110 kg to 1115 kg (2442 to 2453 lb), +224
 If load is 1115 kg to 1120 kg (2453 to 2464 lb), +225
 If load is 1120 kg to 1125 kg (2464 to 2475 lb), +226
 If load is 1125 kg to 1130 kg (2475 to 2486 lb), +227
 If load is 1130 kg to 1135 kg (2486 to 2497 lb), +228
 If load is 1135 kg to 1140 kg (2497 to 2508 lb), +229
 If load is 1140 kg to 1145 kg (2508 to 2519 lb), +230
 If load is 1145 kg to 1150 kg (2519 to 2530 lb), +231
 If load is 1150 kg to 1155 kg (2530 to 2541 lb), +232
 If load is 1155 kg to 1160 kg (2541 to 2552 lb), +233
 If load is 1160 kg to 1165 kg (2552 to 2563 lb), +234
 If load is 1165 kg to 1170 kg (2563 to 2574 lb), +235
 If load is 1170 kg to 1175 kg (2574 to 2585 lb), +236
 If load is 1175 kg to 1180 kg (2585 to 2596 lb), +237
 If load is 1180 kg to 1185 kg (2596 to 2607 lb), +238
 If load is 1185 kg to 1190 kg (2607 to 2618 lb), +239
 If load is 1190 kg to 1195 kg (2618 to 2629 lb), +240
 If load is 1195 kg to 1200 kg (2629 to 2640 lb), +241
 If load is 1200 kg to 1205 kg (2640 to 2651 lb), +242
 If load is 1205 kg to 1210 kg (2651 to 2662 lb), +243
 If load is 1210 kg to 1215 kg (2662 to 2673 lb), +244
 If load is 1215 kg to 1220 kg (2673 to 2684 lb), +245
 If load is 1220 kg to 1225 kg (2684 to 2695 lb), +246
 If load is 1225 kg to 1230 kg (2695 to 2706 lb), +247
 If load is 1230 kg to 1235 kg (2706 to 2717 lb), +248
 If load is 1235 kg to 1240 kg (2717 to 2728 lb), +249
 If load is 1240 kg to 1245 kg (2728 to 2739 lb), +250
 If load is 1245 kg to 1250 kg (2739 to 2750 lb), +251
 If load is 1250 kg to 1255 kg (2750 to 2761 lb), +252
 If load is 1255 kg to 1260 kg (2761 to 2772 lb), +253
 If load is 1260 kg to 1265 kg (2772 to 2783 lb), +254
 If load is 1265 kg to 1270 kg (2783 to 2794 lb), +255
 If load is 1270 kg to 1275 kg (2794 to 2805 lb), +256
 If load is 1275 kg to 1280 kg (2805 to 2816 lb), +257
 If load is 1280 kg to 1285 kg (2816 to 2827 lb), +258
 If load is 1285 kg to 1290 kg (2827 to 2838 lb), +259
 If load is 1290 kg to 1295 kg (2838 to 2849 lb), +260
 If load is 1295 kg to 1300 kg (2849 to 2860 lb), +261
 If load is 1300 kg to 1305 kg (2860 to 2871 lb), +262
 If load is 1305 kg to 1310 kg (2871 to 2882 lb), +263
 If load is 1310 kg to 1315 kg (2882 to 2893 lb), +264
 If load is 1315 kg to 1320 kg (2893 to 2904 lb), +265
 If load is 1320 kg to 1325 kg (2904 to 2915 lb), +266
 If load is 1325 kg to 1330 kg (2915 to 2926 lb), +267
 If load is 1330 kg to 1335 kg (2926 to 2937 lb), +268
 If load is 1335 kg to 1340 kg (2937 to 2948 lb), +269
 If load is 1340 kg to 1345 kg (2948 to 2959 lb), +270
 If load is 1345 kg to 1350 kg (2959 to 2970 lb), +271
 If load is 1350 kg to 1355 kg (2970 to 2981 lb), +272
 If load is 1355 kg to 1360 kg (2981 to 2992 lb), +273
 If load is 1360 kg to 1365 kg (2992 to 3003 lb), +274
 If load is 1365 kg to 1370 kg (3003 to 3014 lb), +275
 If load is 1370 kg to 1375 kg (3014 to 3025 lb), +276
 If load is 1375 kg to 1380 kg (3025 to 3036 lb), +277
 If load is 1380 kg to 1385 kg (3036 to 3047 lb), +278
 If load is 1385 kg to 1390 kg (3047 to 3058 lb), +279
 If load is 1390 kg to 1395 kg (3058 to 3069 lb), +280
 If load is 1395 kg to 1400 kg (3069 to 3080 lb), +281
 If load is 1400 kg to 1405 kg (3080 to 3091 lb), +282
 If load is 1405 kg to 1410 kg (3091 to 3102 lb), +283
 If load is 1410 kg to 1415 kg (3102 to 3113 lb), +284
 If load is 1415 kg to 1420 kg (3113 to 3124 lb), +285
 If load is 1420 kg to 1425 kg (3124 to 3135 lb), +286
 If load is 1425 kg to 1430 kg (3135 to 3146 lb), +287
 If load is 1430 kg to 1435 kg (3146 to 3157 lb), +288
 If load is 1435 kg to 1440 kg (3157 to 3168 lb), +289
 If load is 1440 kg to 1445 kg (3168 to 3179 lb), +290
 If load is 1445 kg to 1450 kg (3179 to 3190 lb), +291
 If load is 1450 kg to 1455 kg (3190 to 3201 lb), +292
 If load is 1455 kg to 1460 kg (3201 to 3212 lb), +293
 If load is 1460 kg to 1465 kg (3212 to 3223 lb), +294
 If load is 1465 kg to 1470 kg (3223 to 3234 lb), +295
 If load is 1470 kg to 1475 kg (3234 to 3245 lb), +296
 If load is 1475 kg to 1480 kg (3245 to 3256 lb), +297
 If load is 1480 kg to 1485 kg (3256 to 3267 lb), +298
 If load is 1485 kg to 1490 kg (3267 to 3278 lb), +299
 If load is 1490 kg to 1495 kg (3278 to 3289 lb), +300
 If load is 1495 kg to 1500 kg (3289 to 3300 lb), +301
 If load is 1500 kg to 1505 kg (3300 to 3311 lb), +302
 If load is 1505 kg to 1510 kg (3311 to 3322 lb), +303
 If load is 1510 kg to 1515 kg (3322 to 3333 lb), +304
 If load is 1515 kg to 1520 kg (3333 to 3344 lb), +305
 If load is 1520 kg to 1525 kg (3344 to 3355 lb), +306
 If load is 1525 kg to 1530 kg (3355 to 3366 lb), +307
 If load is 1530 kg to 1535 kg (3366 to 3377 lb), +308
 If load is 1535 kg to 1540 kg (3377 to 3388 lb), +309
 If load is 1540 kg to 1545 kg (3388 to 3399 lb), +310
 If load is 1545 kg to 1550 kg (3399 to 3410 lb), +311
 If load is 1550 kg to 1555 kg (3410 to 3421 lb), +312
 If load is 1555 kg to 1560 kg (3421 to 3432 lb), +313
 If load is 1560 kg to 1565 kg (3432 to 3443 lb), +314
 If load is 1565 kg to 1570 kg (3443 to 3454 lb), +315
 If load is 1570 kg to 1575 kg (3454 to 3465 lb), +316
 If load is 1575 kg to 1580 kg (3465 to 3476 lb), +317
 If load is 1580 kg to 1585 kg (3476 to 3487 lb), +318
 If load is 1585 kg to 1590 kg (3487 to 3498 lb), +319
 If load is 1590 kg to 1595 kg (3498 to 3509 lb), +320
 If load is 1595 kg to 1600 kg (3509 to 3520 lb), +321
 If load is 1600 kg to 1605 kg (3520 to 3531 lb), +322
 If load is 1605 kg to 1610 kg (3531 to 3542 lb), +323
 If load is 1610 kg to 1615 kg (3542 to 3553 lb), +324
 If load is 1615 kg to 1620 kg (3553 to 3564 lb), +325
 If load is 1620 kg to 1625 kg (3564 to 3575 lb), +326
 If load is 1625 kg to 1630 kg (3575 to 3586 lb), +327
 If load is 1630 kg to 1635 kg (3586 to 3597 lb), +328
 If load is 1635 kg to 1640 kg (3597 to 3608 lb), +329
 If load is 1640 kg to 1645 kg (3608 to 3619 lb), +330
 If load is 1645 kg to 1650 kg (3619 to 3630 lb), +331
 If load is 1650 kg to 1655 kg (3630 to 3641 lb), +332
 If load is 1655 kg to 1660 kg (3641 to 3652 lb), +333
 If load is 1660 kg to 1665 kg (3652 to 3663 lb), +334
 If load is 1665 kg to 1670 kg (3663 to 3674 lb), +335
 If load is 1670 kg to 1675 kg (3674 to 3685 lb), +336
 If load is 1675 kg to 1680 kg (3685 to 3696 lb), +337
 If load is 1680 kg to 1685 kg (3696 to 3707 lb), +338
 If load is 1685 kg to 1690 kg (3707 to 3718 lb), +33

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position

Step 2a: Adjust...
 If elbow is flexed > 135° is working -1
 If elbow is extended < 90° is working +1
 If arm is at side of body 0

Step 2b: Locate Lower Arm Position

Step 3a: Adjust...
 If wrist is bent from the midline > 45° is working -1
 If wrist is bent from the midline < -45° is working +1
 If wrist is straight 0

Step 3b: Wrist Twist
 If twist is twisted mainly in mid-range 0
 If twist is at end of twisting range +2
 If twist is at end of twisting range -2

Step 4: Wrist Twist
 Use values from Table A to locate Posture Score in Table A.

Step 5: Add Muscle Use Score
 If posture nearly static (in table for longer than 5 minutes) 0
 If action repeatedly occurs 4 times per minute of time +1
 If action repeatedly occurs 6 times per minute of time +2

Step 6: Add Force/Load Score
 If posture nearly static (in table for longer than 5 minutes) 0
 If action repeatedly occurs 4 times per minute of time +1
 If action repeatedly occurs 6 times per minute of time +2

Step 7: Add Force/Load Score
 If posture nearly static (in table for longer than 5 minutes) 0
 If action repeatedly occurs 4 times per minute of time +1
 If action repeatedly occurs 6 times per minute of time +2

Step 8: Find Row in Table C
 The correlated score from the Arm/Wrist analysis is used to find the row in Table C.

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position

Step 10: Adjust...
 If neck is flexed > 20° is working -1
 If neck is extended < -20° is working +1
 If neck is straight 0

Step 11: Locate Trunk Position

Step 12: Adjust...
 If trunk is flexed > 20° is working -1
 If trunk is extended < -20° is working +1
 If trunk is straight 0

Step 13: Locate Leg Position

Step 14: Adjust...
 If leg is flexed > 90° is working -1
 If leg is extended < -90° is working +1
 If leg is straight 0

Step 15: Find Column in Table C
 The correlated score from the Neck/Trunk & Leg analysis is used to find the column in Table C.

SCORES

Table A

Upper Arm	Lower Arm	Wrist	Twist	Muscle Use	Force/Load	Posture Score
1	1	1	1	1	1	1
1	1	1	2	1	1	2
1	1	1	3	1	1	3
1	1	1	4	1	1	4
1	1	1	5	1	1	5
1	1	1	6	1	1	6
1	1	1	7	1	1	7
1	1	1	8	1	1	8
1	1	1	9	1	1	9
1	1	1	10	1	1	10
1	1	1	11	1	1	11
1	1	1	12	1	1	12
1	1	1	13	1	1	13
1	1	1	14	1	1	14
1	1	1	15	1	1	15
1	1	1	16	1	1	16
1	1	1	17	1	1	17
1	1	1	18	1	1	18
1	1	1	19	1	1	19
1	1	1	20	1	1	20
1	1	1	21	1	1	21
1	1	1	22	1	1	22
1	1	1	23	1	1	23
1	1	1	24	1	1	24
1	1	1	25	1	1	25
1	1	1	26	1	1	26
1	1	1	27	1	1	27
1	1	1	28	1	1	28
1	1	1	29	1	1	29
1	1	1	30	1	1	30
1	1	1	31	1	1	31
1	1	1	32	1	1	32
1	1	1	33	1	1	33
1	1	1	34	1	1	34
1	1	1	35	1	1	35
1	1	1	36	1	1	36
1	1	1	37	1	1	37
1	1	1	38	1	1	38
1	1	1	39	1	1	39
1	1	1	40	1	1	40
1	1	1	41	1	1	41
1	1	1	42	1	1	42
1	1	1	43	1	1	43
1	1	1	44	1	1	44
1	1	1	45	1	1	45
1	1	1	46	1	1	46
1	1	1	47	1	1	47
1	1	1	48	1	1	48
1	1	1	49	1	1	49
1	1	1	50	1	1	50
1	1	1	51	1	1	51
1	1	1	52	1	1	52
1	1	1	53	1	1	53
1	1	1	54	1	1	54
1	1	1	55	1	1	55
1	1	1	56	1	1	56
1	1	1	57	1	1	57
1	1	1	58	1	1	58
1	1	1	59	1	1	59
1	1	1	60	1	1	60
1	1	1	61	1	1	61
1	1	1	62	1	1	62
1	1	1	63	1	1	63
1	1	1	64	1	1	64
1	1	1	65	1	1	65
1	1	1	66	1	1	66
1	1	1	67	1	1	67
1	1	1	68	1	1	68
1	1	1	69	1	1	69
1	1	1	70	1	1	70
1	1	1	71	1	1	71
1	1	1	72	1	1	72
1	1	1	73	1	1	73
1	1	1	74	1	1	74
1	1	1	75	1	1	75
1	1	1	76	1	1	76
1	1	1	77	1	1	77
1	1	1	78	1	1	78
1	1	1	79	1	1	79
1	1	1	80	1	1	80
1	1	1	81	1	1	81
1	1	1	82	1	1	82
1	1	1	83	1	1	83
1	1	1	84	1	1	84
1	1	1	85	1	1	85
1	1	1	86	1	1	86
1	1	1	87	1	1	87
1	1	1	88	1	1	88
1	1	1	89	1	1	89
1	1	1	90	1	1	90
1	1	1	91	1	1	91
1	1	1	92	1	1	92
1	1	1	93	1	1	93
1	1	1	94	1	1	94
1	1	1	95	1	1	95
1	1	1	96	1	1	96
1	1	1	97	1	1	97
1	1	1	98	1	1	98
1	1	1	99	1	1	99
1	1	1	100	1	1	100

Table B

Neck	Trunk	Legs	Posture Score
1	1	1	1
1	1	2	2
1	1	3	3
1	1	4	4
1	1	5	5
1	1	6	6
1	1	7	7
1	1	8	8
1	1	9	9
1	1	10	10
1	1	11	11
1	1	12	12
1	1	13	13
1	1	14	14
1	1	15	15
1	1	16	16
1	1	17	17
1	1	18	18
1	1	19	19
1	1	20	20
1	1	21	21
1	1	22	22
1	1	23	23
1	1	24	24
1	1	25	25
1	1	26	26
1	1	27	27
1	1	28	28
1	1	29	29
1	1	30	30
1	1	31	31
1	1	32	32
1	1	33	33
1	1	34	34
1	1	35	35
1	1	36	36
1	1	37	37
1	1	38	38
1	1	39	39
1	1	40	40
1	1	41	41
1	1	42	42
1	1	43	43
1	1	44	44
1	1	45	45
1	1	46	46
1	1	47	47
1	1	48	48
1	1	49	49
1	1	50	50
1	1	51	51
1	1	52	52
1	1	53	53
1	1	54	54
1	1	55	55
1	1	56	56
1	1	57	57
1	1	58	58
1	1	59	59
1	1	60	60
1	1	61	61
1	1	62	62
1	1	63	63
1	1	64	64
1	1	65	65
1	1	66	66
1	1	67	67
1	1	68	68
1	1	69	69
1	1	70	70
1	1	71	71
1	1	72	72
1	1	73	73
1	1	74	74
1	1	75	75
1	1	76	76
1	1	77	77
1	1	78	78
1	1	79	79
1	1	80	80
1	1	81	81
1	1	82	82
1	1	83	83
1	1	84	84
1	1	85	85
1	1	86	86
1	1	87	87
1	1	88	88
1	1	89	89
1	1	90	90
1	1	91	91
1	1	92	92
1	1	93	93
1	1	94	94
1	1	95	95
1	1	96	96
1	1	97	97
1	1	98	98
1	1	99	99
1	1	100	100

Table C

Posture Score	Muscle Use Score	Force/Load Score	Final Score
1	1	1	1
1	1	2	2
1	1	3	3
1	1	4	4
1	1	5	5
1	1	6	6
1	1	7	7
1	1	8	8
1	1	9	9
1	1	10	10
1	1	11	11
1	1	12	12
1	1	13	13
1	1	14	14
1	1	15	15
1	1	16	16
1	1	17	17
1	1	18	18
1	1	19	19
1	1	20	20
1	1	21	21
1	1	22	22
1	1	23	23
1	1	24	24
1	1	25	25
1	1	26	26
1	1	27	27
1	1	28	28
1	1	29	29
1	1	30	30
1	1	31	31
1	1	32	32
1	1	33	33
1	1	34	34
1	1	35	35
1	1	36	36
1	1	37	37
1	1	38	38
1	1	39	39
1	1	40	40
1	1	41	41
1	1	42	42
1	1	43	43
1	1	44	44
1	1	45	45
1	1	46	46
1	1	47	47
1	1	48	48
1	1	49	49
1	1	50	50
1	1	51	51
1	1	52	52
1	1	53	53
1	1	54	54
1	1	55	55
1	1	56	56
1	1	57	57
1	1	58	58
1	1	59	59
1	1	60	60
1	1	61	61
1	1	62	62
1	1	63	63
1	1	64	64
1	1	65	65
1	1	66	66
1	1	67	67
1	1	68	68
1	1	69	69
1	1	70	70
1	1	71	71
1	1	72	72
1	1	73	73
1	1	74	74
1	1	75	75
1	1	76	76
1	1	77	77
1	1	78	78
1	1	79	79
1	1	80	80
1	1	81	81
1	1	82	82
1	1	83	83
1	1	84	84
1	1	85	85
1	1	86	86
1	1	87	87
1	1	88	88
1	1	89	89
1	1	90	90
1	1	91	91
1	1	92	92
1	1	93	93
1	1	9	

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position

Step 2: Locate Lower Arm Position

Step 3: Locate Wrist Position

Step 4: Adjust...
 If wrist is flexed +1; if wrist is extended -1; if wrist is ulnar deviation +1; if wrist is radial deviation -1.

Final Arm & Wrist Score = 4

B. Neck, Trunk & Leg Analysis

Step 5: Locate Neck Position

Step 6: Adjust...
 If neck is flexed +1; if neck is extended -1; if neck is lateral bending +1; if neck is medial bending -1.

Final Neck Score = 4

Step 7: Locate Trunk Position

Step 8: Adjust...
 If trunk is flexed +1; if trunk is extended -1; if trunk is lateral bending +1; if trunk is medial bending -1.

Final Trunk Score = 4

Step 9: Locate Leg Position

Step 10: Adjust...
 If leg is flexed +1; if leg is extended -1; if leg is lateral bending +1; if leg is medial bending -1.

Final Leg Score = 4

SCORES

Table A

Upper Arm	Lower Arm	Wrist	Neck	Trunk	Leg
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6

Table B

Neck	Trunk	Leg	Final Score
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6

Table C

Neck	Trunk	Leg	Final Score
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6

Final Score = 7

Subject: Muzalikin Benon Tapan Date: 1/1/2021

Company: Pring Silver Department: Perumahan Scorer: Frengki

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 investigate further; 5 or 6 investigate further and change soon; 7 investigate and change immediately

Source: McAtamney, J. & Corlett, E.N. (1993) RULA: a survey method for the investigation of work-related upper limb disorders, *Applied Ergonomics*, 24(2), 91-99.

© Pringle Alan Hodge, Cornell University Feb. 2007

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
 -20° to -45° = +1
 -45° to -20° = +2
 -20° to 0° = +3
 0° to 20° = +4
 If posture is neutral = 0
 If arm is extended or flexed = +1

Step 2: Locate Lower Arm Position
 -45° to 100° = +1
 100° to 150° = +2
 150° to 180° = +3
 If arm is extended or flexed = +1

Step 3: Locate Wrist Position
 -15° to 15° = 0
 15° to 45° = +1
 45° to 90° = +2
 90° to 135° = +3
 135° to 180° = +4
 If wrist is bent from the neutral = +1

Step 4: Wrist Twist
 If wrist is twisted mainly in mid-range = 1
 If twist is at or near end of twisting range = 2

Step 5: Look-up Posture Score in Table A

Step 6: Add Muscle Use Score
 If posture mainly static or held for longer than 1 minute = 0
 If action repeatedly occurs 4 times per minute or more = +1

Step 7: Add Force/Load Score
 If load less than 2 kg (4.4 lbs) = 0
 If 2 kg to 5 kg (4.4 to 11 lbs) = +1
 If 5 kg to 10 kg (11 to 22 lbs) = +2
 If more than 10 kg (22 lbs) = +3

Step 8: Find Row in Table C
 The corresponding score from the Arm and Wrist analysis is added to the final score in Table C.

Step 9: Add Neck Score
 If neck is neutral = 0
 If neck is extended or flexed = +1

Step 10: Add Trunk Score
 If trunk is neutral = 0
 If trunk is extended or flexed = +1

Step 11: Add Leg Score
 If legs & feet supported and relaxed = 0
 If not = +1

Step 12: Look-up Posture Score in Table B
 Use values from steps 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 to find Posture Score in Table B.

Step 13: Add Muscle Use Score
 If posture mainly static or held for longer than 1 minute = 0
 If action repeatedly occurs 4 times per minute or more = +1

Step 14: Add Force/Load Score
 If load less than 2 kg (4.4 lbs) = 0
 If 2 kg to 5 kg (4.4 to 11 lbs) = +1
 If 5 kg to 10 kg (11 to 22 lbs) = +2
 If more than 10 kg (22 lbs) = +3

Step 15: Find Column in Table C
 The corresponding score from the Neck, Trunk, and Leg analysis is added to the final score in Table C.

Final Score = 7

Table A: Look-up Posture Score

Upper Arm	Lower Arm	Wrist	Wrist Twist	Muscle Use	Force/Load
1	1	1	1	0	0
1	1	1	2	0	0
1	1	1	3	0	0
1	1	1	4	0	0
1	1	2	1	0	0
1	1	2	2	0	0
1	1	2	3	0	0
1	1	2	4	0	0
1	1	3	1	0	0
1	1	3	2	0	0
1	1	3	3	0	0
1	1	3	4	0	0
1	1	4	1	0	0
1	1	4	2	0	0
1	1	4	3	0	0
1	1	4	4	0	0
1	2	1	1	0	0
1	2	1	2	0	0
1	2	1	3	0	0
1	2	1	4	0	0
1	2	2	1	0	0
1	2	2	2	0	0
1	2	2	3	0	0
1	2	2	4	0	0
1	2	3	1	0	0
1	2	3	2	0	0
1	2	3	3	0	0
1	2	3	4	0	0
1	2	4	1	0	0
1	2	4	2	0	0
1	2	4	3	0	0
1	2	4	4	0	0
1	3	1	1	0	0
1	3	1	2	0	0
1	3	1	3	0	0
1	3	1	4	0	0
1	3	2	1	0	0
1	3	2	2	0	0
1	3	2	3	0	0
1	3	2	4	0	0
1	3	3	1	0	0
1	3	3	2	0	0
1	3	3	3	0	0
1	3	3	4	0	0
1	3	4	1	0	0
1	3	4	2	0	0
1	3	4	3	0	0
1	3	4	4	0	0
1	4	1	1	0	0
1	4	1	2	0	0
1	4	1	3	0	0
1	4	1	4	0	0
1	4	2	1	0	0
1	4	2	2	0	0
1	4	2	3	0	0
1	4	2	4	0	0
1	4	3	1	0	0
1	4	3	2	0	0
1	4	3	3	0	0
1	4	3	4	0	0
1	4	4	1	0	0
1	4	4	2	0	0
1	4	4	3	0	0
1	4	4	4	0	0
2	1	1	1	0	0
2	1	1	2	0	0
2	1	1	3	0	0
2	1	1	4	0	0
2	1	2	1	0	0
2	1	2	2	0	0
2	1	2	3	0	0
2	1	2	4	0	0
2	1	3	1	0	0
2	1	3	2	0	0
2	1	3	3	0	0
2	1	3	4	0	0
2	1	4	1	0	0
2	1	4	2	0	0
2	1	4	3	0	0
2	1	4	4	0	0
2	2	1	1	0	0
2	2	1	2	0	0
2	2	1	3	0	0
2	2	1	4	0	0
2	2	2	1	0	0
2	2	2	2	0	0
2	2	2	3	0	0
2	2	2	4	0	0
2	2	3	1	0	0
2	2	3	2	0	0
2	2	3	3	0	0
2	2	3	4	0	0
2	2	4	1	0	0
2	2	4	2	0	0
2	2	4	3	0	0
2	2	4	4	0	0
2	3	1	1	0	0
2	3	1	2	0	0
2	3	1	3	0	0
2	3	1	4	0	0
2	3	2	1	0	0
2	3	2	2	0	0
2	3	2	3	0	0
2	3	2	4	0	0
2	3	3	1	0	0
2	3	3	2	0	0
2	3	3	3	0	0
2	3	3	4	0	0
2	3	4	1	0	0
2	3	4	2	0	0
2	3	4	3	0	0
2	3	4	4	0	0
2	4	1	1	0	0
2	4	1	2	0	0
2	4	1	3	0	0
2	4	1	4	0	0
2	4	2	1	0	0
2	4	2	2	0	0
2	4	2	3	0	0
2	4	2	4	0	0
2	4	3	1	0	0
2	4	3	2	0	0
2	4	3	3	0	0
2	4	3	4	0	0
2	4	4	1	0	0
2	4	4	2	0	0
2	4	4	3	0	0
2	4	4	4	0	0
3	1	1	1	0	0
3	1	1	2	0	0
3	1	1	3	0	0
3	1	1	4	0	0
3	1	2	1	0	0
3	1	2	2	0	0
3	1	2	3	0	0
3	1	2	4	0	0
3	1	3	1	0	0
3	1	3	2	0	0
3	1	3	3	0	0
3	1	3	4	0	0
3	1	4	1	0	0
3	1	4	2	0	0
3	1	4	3	0	0
3	1	4	4	0	0
3	2	1	1	0	0
3	2	1	2	0	0
3	2	1	3	0	0
3	2	1	4	0	0
3	2	2	1	0	0
3	2	2	2	0	0
3	2	2	3	0	0
3	2	2	4	0	0
3	2	3	1	0	0
3	2	3	2	0	0
3	2	3	3	0	0
3	2	3	4	0	0
3	2	4	1	0	0
3	2	4	2	0	0
3	2	4	3	0	0
3	2	4	4	0	0
3	3	1	1	0	0
3	3	1	2	0	0
3	3	1	3	0	0
3	3	1	4	0	0
3	3	2	1	0	0
3	3	2	2	0	0
3	3	2	3	0	0
3	3	2	4	0	0
3	3	3	1	0	0
3	3	3	2	0	0
3	3	3	3	0	0
3	3	3	4	0	0
3	3	4	1	0	0
3	3	4	2	0	0
3	3	4	3	0	0
3	3	4	4	0	0
3	4	1	1	0	0
3	4	1	2	0	0
3	4	1	3	0	0
3	4	1	4	0	0
3	4	2	1	0	0
3	4	2	2	0	0
3	4	2	3	0	0
3	4	2	4	0	0
3	4	3	1	0	0
3	4	3	2	0	0
3	4	3	3	0	0
3	4	3	4	0	0
3	4	4	1	0	0
3	4	4	2	0	0
3	4	4	3	0	0
3	4	4	4	0	0
4	1	1	1	0	0
4	1	1	2	0	0
4	1	1	3	0	0
4	1	1	4	0	0
4	1	2	1	0	0
4	1	2	2	0	0
4	1	2	3	0	0
4	1	2	4	0	0
4	1	3	1	0	0
4	1	3	2	0	0
4	1	3	3	0	0
4	1	3	4	0	0
4	1	4	1	0	0
4	1	4	2	0	0
4	1	4	3	0	0
4	1	4	4	0	0
4	2	1	1	0	0
4	2	1	2	0	0
4	2	1	3	0	0
4	2	1	4	0	0
4	2	2	1	0	0
4	2	2	2	0	0
4	2	2	3	0	0
4	2	2	4	0	0
4	2	3	1	0	0
4	2	3	2	0	0
4	2	3	3	0	0
4	2	3	4	0	0
4	2	4	1	0	0
4	2	4	2	0	0
4	2	4	3	0	0
4	2	4	4	0	0
4	3	1	1	0	0
4	3	1	2	0	0
4	3	1	3	0	0
4	3	1	4	0	0
4	3	2	1	0	0
4	3	2	2	0	0
4	3	2	3	0	0
4	3	2	4	0	0
4	3	3	1	0	0
4	3	3	2	0	0
4	3	3	3	0	0
4	3	3	4	0	0
4	3	4	1	0	0
4	3	4	2	0	0
4	3	4	3	0	0
4	3	4	4	0	0
4	4	1	1	0	0
4	4	1	2	0	0
4	4	1	3	0	0
4	4	1	4	0	0
4	4	2	1	0	0
4	4	2	2	0	0
4	4	2	3	0	0
4	4	2	4	0	0
4	4	3	1	0	0
4	4	3	2	0	0
4	4	3	3	0	0
4	4	3	4	0	0
4	4	4	1	0	0
4	4	4	2	0	0
4	4	4	3	0	0
4	4	4	4	0	0

Table B: Look-up Posture Score

Neck	Trunk	Legs	Posture Score
1	1	1	1
1	1	2	2
1	1	3	3
1	1	4	4
1	2	1	2
1	2	2	3
1	2	3	4
1	2	4	5
1	3	1	3
1	3	2	4
1	3	3	5
1	3	4	6
1	4	1	4
1	4	2	5
1	4	3	6
1	4	4	7
2	1	1	

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position

Step 2: Locate Lower Arm Position

Step 3: Locate Wrist Position

Step 4: Adjust...

Step 5: Look-up Posture Score in Table A

Step 6: Add Muscle Use Score

Step 7: Add Force/Load Score

Step 8: Find Row in Table C

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position

Step 10: Locate Trunk Position

Step 11: Legs

Step 12: Look-up Posture Score in Table B

Step 13: Add Muscle Use Score

Step 14: Add Force/Load Score

Step 15: Find Column in Table C

SCORES

Table A

Upper Arm	Lower Arm	Wrist	Score
1	1	1	1
1	1	2	2
1	1	3	3
1	1	4	4
1	1	5	5
1	1	6	6
1	1	7	7
1	1	8	8
1	1	9	9
1	1	10	10
1	1	11	11
1	1	12	12
1	1	13	13
1	1	14	14
1	1	15	15
1	1	16	16
1	1	17	17
1	1	18	18
1	1	19	19
1	1	20	20
1	1	21	21
1	1	22	22
1	1	23	23
1	1	24	24
1	1	25	25
1	1	26	26
1	1	27	27
1	1	28	28
1	1	29	29
1	1	30	30
1	1	31	31
1	1	32	32
1	1	33	33
1	1	34	34
1	1	35	35
1	1	36	36
1	1	37	37
1	1	38	38
1	1	39	39
1	1	40	40
1	1	41	41
1	1	42	42
1	1	43	43
1	1	44	44
1	1	45	45
1	1	46	46
1	1	47	47
1	1	48	48
1	1	49	49
1	1	50	50
1	1	51	51
1	1	52	52
1	1	53	53
1	1	54	54
1	1	55	55
1	1	56	56
1	1	57	57
1	1	58	58
1	1	59	59
1	1	60	60
1	1	61	61
1	1	62	62
1	1	63	63
1	1	64	64
1	1	65	65
1	1	66	66
1	1	67	67
1	1	68	68
1	1	69	69
1	1	70	70
1	1	71	71
1	1	72	72
1	1	73	73
1	1	74	74
1	1	75	75
1	1	76	76
1	1	77	77
1	1	78	78
1	1	79	79
1	1	80	80
1	1	81	81
1	1	82	82
1	1	83	83
1	1	84	84
1	1	85	85
1	1	86	86
1	1	87	87
1	1	88	88
1	1	89	89
1	1	90	90
1	1	91	91
1	1	92	92
1	1	93	93
1	1	94	94
1	1	95	95
1	1	96	96
1	1	97	97
1	1	98	98
1	1	99	99
1	1	100	100

Table B

Neck	Trunk	Legs	Score
1	1	1	1
1	1	2	2
1	1	3	3
1	1	4	4
1	1	5	5
1	1	6	6
1	1	7	7
1	1	8	8
1	1	9	9
1	1	10	10
1	1	11	11
1	1	12	12
1	1	13	13
1	1	14	14
1	1	15	15
1	1	16	16
1	1	17	17
1	1	18	18
1	1	19	19
1	1	20	20
1	1	21	21
1	1	22	22
1	1	23	23
1	1	24	24
1	1	25	25
1	1	26	26
1	1	27	27
1	1	28	28
1	1	29	29
1	1	30	30
1	1	31	31
1	1	32	32
1	1	33	33
1	1	34	34
1	1	35	35
1	1	36	36
1	1	37	37
1	1	38	38
1	1	39	39
1	1	40	40
1	1	41	41
1	1	42	42
1	1	43	43
1	1	44	44
1	1	45	45
1	1	46	46
1	1	47	47
1	1	48	48
1	1	49	49
1	1	50	50
1	1	51	51
1	1	52	52
1	1	53	53
1	1	54	54
1	1	55	55
1	1	56	56
1	1	57	57
1	1	58	58
1	1	59	59
1	1	60	60
1	1	61	61
1	1	62	62
1	1	63	63
1	1	64	64
1	1	65	65
1	1	66	66
1	1	67	67
1	1	68	68
1	1	69	69
1	1	70	70
1	1	71	71
1	1	72	72
1	1	73	73
1	1	74	74
1	1	75	75
1	1	76	76
1	1	77	77
1	1	78	78
1	1	79	79
1	1	80	80
1	1	81	81
1	1	82	82
1	1	83	83
1	1	84	84
1	1	85	85
1	1	86	86
1	1	87	87
1	1	88	88
1	1	89	89
1	1	90	90
1	1	91	91
1	1	92	92
1	1	93	93
1	1	94	94
1	1	95	95
1	1	96	96
1	1	97	97
1	1	98	98
1	1	99	99
1	1	100	100

Table C

Posture Score	Muscle Use Score	Force/Load Score	Final Score
1	1	1	1
1	1	2	2
1	1	3	3
1	1	4	4
1	1	5	5
1	1	6	6
1	1	7	7
1	1	8	8
1	1	9	9
1	1	10	10
1	1	11	11
1	1	12	12
1	1	13	13
1	1	14	14
1	1	15	15
1	1	16	16
1	1	17	17
1	1	18	18
1	1	19	19
1	1	20	20
1	1	21	21
1	1	22	22
1	1	23	23
1	1	24	24
1	1	25	25
1	1	26	26
1	1	27	27
1	1	28	28
1	1	29	29
1	1	30	30
1	1	31	31
1	1	32	32
1	1	33	33
1	1	34	34
1	1	35	35
1	1	36	36
1	1	37	37
1	1	38	38
1	1	39	39
1	1	40	40
1	1	41	41
1	1	42	42
1	1	43	43
1	1	44	44
1	1	45	45
1	1	46	46
1	1	47	47
1	1	48	48
1	1	49	49
1	1	50	50
1	1	51	51
1	1	52	52
1	1	53	53
1	1	54	54
1	1	55	55
1	1	56	56
1	1	57	57
1	1	58	58
1	1	59	59
1	1	60	60
1	1	61	61
1	1	62	62
1	1	63	63
1	1	64	64
1	1	65	65
1	1	66	66
1	1	67	67
1	1	68	68
1	1	69	69
1	1	70	70
1	1	71	71
1	1	72	72
1	1	73	73
1	1	74	74
1	1	75	75
1	1	76	76
1	1	77	77
1	1	78	78
1	1	79	79
1	1	80	80
1	1	81	81
1	1	82	82
1	1	83	83
1	1	84	84
1	1	85	85
1	1	86	86
1	1	87	87
1	1	88	88
1	1	89	89
1	1	90	90
1	1	91	91
1	1	92	92
1	1	93	93
1	1	94	94
1	1	95	95
1	1	96	96
1	1	97	97
1	1	98	98
1	1	99	99
1	1	100	100

Final Score = 7

Subject: Sandiya Satrio **Date:** 1/1/2021

Company: Pengrajin **Department:** Pengrajin **Scorer:** Pengrajin

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 investigate further; 5 or 6 investigate further and change soon; 7 investigate and change immediately

Source: McAtamney, L. & Corlett, E.N. (1993). RULA: a survey method for the investigation of work-related upper limb disorders. *Applied Ergonomics*, 24(2) 91-99.

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RULA Employee Assessment Worksheet

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position

Step 2: Adjust...

If arm is extended... +1
If arm is supported or person is leaning... -1
If arm is in mid-range... 0

Step 3: Adjust...

If arm is extended... +1
If arm is supported or person is leaning... -1
If arm is in mid-range... 0

Step 4: Locate Wrist Position

Step 5: Adjust...

If wrist is extended... +1
If wrist is in mid-range... 0
If wrist is flexed... -1

Step 6: Add Muscle Use Score

If posture is very static... 0
If posture is static... 1
If posture is dynamic... 2
If posture is very dynamic... 3

Step 7: Add Force/load Score

If load is less than 2 kg... 0
If load is 2 to 5 kg... 1
If load is 5 to 10 kg... 2
If load is more than 10 kg... 3

Step 8: Find Row in Table C

The row is selected by the intersection of Step 6 and Step 7.

B. Neck, Trunk & Leg Analysis

Step 1: Locate Neck Position

Step 2: Adjust...

If neck is extended... +1
If neck is in mid-range... 0
If neck is flexed... -1

Step 3: Adjust...

If neck is extended... +1
If neck is in mid-range... 0
If neck is flexed... -1

Step 4: Locate Trunk Position

Step 5: Adjust...

If trunk is extended... +1
If trunk is in mid-range... 0
If trunk is flexed... -1

Step 6: Add Muscle Use Score

If posture is very static... 0
If posture is static... 1
If posture is dynamic... 2
If posture is very dynamic... 3

Step 7: Add Force/load Score

If load is less than 2 kg... 0
If load is 2 to 5 kg... 1
If load is 5 to 10 kg... 2
If load is more than 10 kg... 3

Step 8: Find Row in Table C

The row is selected by the intersection of Step 6 and Step 7.

C. Final Score Calculation

Table A: Upper Arm Position

User	Upper Arm	Wrist	Muscle Use	Force/load
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10

Table B: Neck, Trunk & Leg Position

User	Neck	Trunk	Legs	Muscle Use	Force/load
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9
10	10	10	10	10	10

Table C: Final Score

User	Upper Arm	Wrist	Muscle Use	Force/load	Final Score
1	1	1	1	1	4
2	2	2	2	2	5
3	3	3	3	3	6
4	4	4	4	4	7
5	5	5	5	5	8
6	6	6	6	6	9
7	7	7	7	7	10
8	8	8	8	8	11
9	9	9	9	9	12
10	10	10	10	10	13

LA: a survey method for the investigation of neck-related upper limb disorders. *Applied Ergonomics*, 24(2), 91-99.

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RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
 -20° to +20°
 If forearm is raised, +1
 If arm is supported or partially supported, +1
 If arm is suspended or partially suspended, +1

Step 2: Locate Lower Arm Position
 -60° to 150°
 If forearm is raised, +1
 If forearm is supported or partially supported, +1
 If forearm is suspended or partially suspended, +1

Step 3: Locate Wrist Position
 -15° to 15°
 If wrist is bent from the middle, +1
 If wrist is bent from the middle, +1
 If wrist is bent from the middle, +1

Step 4: Wrist Twist
 If wrist is twisted mainly in mid-range, +1
 If wrist is twisted mainly in mid-range, +1
 If wrist is twisted mainly in mid-range, +1

Step 5: Look-up Posture Score in Table A
 Use values from steps 1, 2, 3, 4 to locate Posture Score in Table A.

Step 6: Add Muscle Use Score
 If posture is easy, 0; if hard, 1; if very hard, 2
 If action is easy, 0; if hard, 1; if very hard, 2

Step 7: Add Force/load Score
 If load is less than 2 kg (4.4 lbs), 0
 If load is 2 kg to 5 kg (4.4 to 11 lbs), 1
 If load is 5 kg to 10 kg (11 to 22 lbs), 2
 If load is 10 kg to 15 kg (22 to 33 lbs), 3
 If load is 15 kg to 20 kg (33 to 44 lbs), 4
 If load is 20 kg to 25 kg (44 to 55 lbs), 5
 If load is 25 kg to 30 kg (55 to 66 lbs), 6
 If load is 30 kg to 35 kg (66 to 77 lbs), 7
 If load is 35 kg to 40 kg (77 to 88 lbs), 8
 If load is 40 kg to 45 kg (88 to 99 lbs), 9
 If load is 45 kg to 50 kg (99 to 110 lbs), 10

Step 8: Find Row in Table C
 The combined score from the Arm & Wrist analysis is used to find the row in Table C.

Step 9: Add Neck Score
 If posture is easy, 0; if hard, 1; if very hard, 2
 If action is easy, 0; if hard, 1; if very hard, 2

Step 10: Add Trunk Score
 If posture is easy, 0; if hard, 1; if very hard, 2
 If action is easy, 0; if hard, 1; if very hard, 2

Step 11: Add Leg Score
 If posture is easy, 0; if hard, 1; if very hard, 2
 If action is easy, 0; if hard, 1; if very hard, 2

Step 12: Look-up Posture Score in Table B
 Use values from steps 9, 10, 11 to locate Posture Score in Table B.

Step 13: Add Muscle Use Score
 If posture is easy, 0; if hard, 1; if very hard, 2
 If action is easy, 0; if hard, 1; if very hard, 2

Step 14: Add Force/load Score
 If load is less than 2 kg (4.4 lbs), 0
 If load is 2 kg to 5 kg (4.4 to 11 lbs), 1
 If load is 5 kg to 10 kg (11 to 22 lbs), 2
 If load is 10 kg to 15 kg (22 to 33 lbs), 3
 If load is 15 kg to 20 kg (33 to 44 lbs), 4
 If load is 20 kg to 25 kg (44 to 55 lbs), 5
 If load is 25 kg to 30 kg (55 to 66 lbs), 6
 If load is 30 kg to 35 kg (66 to 77 lbs), 7
 If load is 35 kg to 40 kg (77 to 88 lbs), 8
 If load is 40 kg to 45 kg (88 to 99 lbs), 9
 If load is 45 kg to 50 kg (99 to 110 lbs), 10

Step 15: Find Column in Table C
 The combined score from the Neck, Trunk & Leg analysis is used to find the column in Table C.

Table A

Upper Arm	Lower Arm	Wrist	Twist
1	1	1	1
1	1	1	2
1	1	1	3
1	1	1	4
1	1	1	5
1	1	1	6
1	1	1	7
1	1	1	8
1	1	1	9
1	1	1	10
1	1	2	1
1	1	2	2
1	1	2	3
1	1	2	4
1	1	2	5
1	1	2	6
1	1	2	7
1	1	2	8
1	1	2	9
1	1	2	10
1	1	3	1
1	1	3	2
1	1	3	3
1	1	3	4
1	1	3	5
1	1	3	6
1	1	3	7
1	1	3	8
1	1	3	9
1	1	3	10
1	1	4	1
1	1	4	2
1	1	4	3
1	1	4	4
1	1	4	5
1	1	4	6
1	1	4	7
1	1	4	8
1	1	4	9
1	1	4	10
1	1	5	1
1	1	5	2
1	1	5	3
1	1	5	4
1	1	5	5
1	1	5	6
1	1	5	7
1	1	5	8
1	1	5	9
1	1	5	10
1	1	6	1
1	1	6	2
1	1	6	3
1	1	6	4
1	1	6	5
1	1	6	6
1	1	6	7
1	1	6	8
1	1	6	9
1	1	6	10
1	1	7	1
1	1	7	2
1	1	7	3
1	1	7	4
1	1	7	5
1	1	7	6
1	1	7	7
1	1	7	8
1	1	7	9
1	1	7	10
1	1	8	1
1	1	8	2
1	1	8	3
1	1	8	4
1	1	8	5
1	1	8	6
1	1	8	7
1	1	8	8
1	1	8	9
1	1	8	10
1	1	9	1
1	1	9	2
1	1	9	3
1	1	9	4
1	1	9	5
1	1	9	6
1	1	9	7
1	1	9	8
1	1	9	9
1	1	9	10
1	1	10	1
1	1	10	2
1	1	10	3
1	1	10	4
1	1	10	5
1	1	10	6
1	1	10	7
1	1	10	8
1	1	10	9
1	1	10	10

Table B

Neck	Trunk	Legs	Posture Score
1	1	1	1
1	1	2	2
1	1	3	3
1	1	4	4
1	1	5	5
1	1	6	6
1	1	7	7
1	1	8	8
1	1	9	9
1	1	10	10
1	2	1	11
1	2	2	12
1	2	3	13
1	2	4	14
1	2	5	15
1	2	6	16
1	2	7	17
1	2	8	18
1	2	9	19
1	2	10	20
1	3	1	21
1	3	2	22
1	3	3	23
1	3	4	24
1	3	5	25
1	3	6	26
1	3	7	27
1	3	8	28
1	3	9	29
1	3	10	30
1	4	1	31
1	4	2	32
1	4	3	33
1	4	4	34
1	4	5	35
1	4	6	36
1	4	7	37
1	4	8	38
1	4	9	39
1	4	10	40
1	5	1	41
1	5	2	42
1	5	3	43
1	5	4	44
1	5	5	45
1	5	6	46
1	5	7	47
1	5	8	48
1	5	9	49
1	5	10	50
1	6	1	51
1	6	2	52
1	6	3	53
1	6	4	54
1	6	5	55
1	6	6	56
1	6	7	57
1	6	8	58
1	6	9	59
1	6	10	60
1	7	1	61
1	7	2	62
1	7	3	63
1	7	4	64
1	7	5	65
1	7	6	66
1	7	7	67
1	7	8	68
1	7	9	69
1	7	10	70
1	8	1	71
1	8	2	72
1	8	3	73
1	8	4	74
1	8	5	75
1	8	6	76
1	8	7	77
1	8	8	78
1	8	9	79
1	8	10	80
1	9	1	81
1	9	2	82
1	9	3	83
1	9	4	84
1	9	5	85
1	9	6	86
1	9	7	87
1	9	8	88
1	9	9	89
1	9	10	90
1	10	1	91
1	10	2	92
1	10	3	93
1	10	4	94
1	10	5	95
1	10	6	96
1	10	7	97
1	10	8	98
1	10	9	99
1	10	10	100

Table C

Posture Score	Muscle Use Score	Force/load Score	Final Score
1	0	0	1
1	1	0	2
1	2	0	3
1	3	0	4
1	4	0	5
1	5	0	6
1	6	0	7
1	7	0	8
1	8	0	9
1	9	0	10
1	10	0	11
1	11	0	12
1	12	0	13
1	13	0	14
1	14	0	15
1	15	0	16
1	16	0	17
1	17	0	18
1	18	0	19
1	19	0	20
1	20	0	21
1	21	0	22
1	22	0	23
1	23	0	24
1	24	0	25
1	25	0	26
1	26	0	27
1	27	0	28
1	28	0	29
1	29	0	30
1	30	0	31
1	31	0	32
1	32	0	33
1	33	0	34
1	34	0	35
1	35	0	36
1	36	0	37
1	37	0	38
1	38	0	39
1	39	0	40
1	40	0	41
1	41	0	42
1	42	0	43
1	43	0	44
1	44	0	45
1	45	0	46
1	46	0	47
1	47	0	48
1	48	0	49
1	49	0	50
1	50	0	51
1	51	0	52
1	52	0	53
1	53	0	54
1	54	0	55
1	55	0	56
1	56	0	57
1	57	0	58
1	58	0	59
1	59	0	60
1	60	0	61
1	61	0	62
1	62	0	63
1	63	0	64
1	64	0	65
1	65	0	66
1	66	0	67
1	67	0	68
1	68	0	69
1	69	0	70
1	70	0	71
1	71	0	72
1	72	0	73
1	73	0	74
1	74	0	75
1	75	0	76
1	76	0	77
1	77	0	78
1	78	0	79
1	79	0	80
1	80	0	81
1	81	0	82
1	82	0	83
1	83	0	84
1	84	0	85
1	85	0	86
1	86	0	87
1	87	0	88
1	88	0	89
1	89	0	90
1	90	0	91
1	91	0	92

Lampiran 38. Worksheet RULA Sekarang Pengrajin 2 Bagian Kanan

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position

 Final Upper Arm Score = 2

Step 2: Locate Lower Arm Position

 Final Lower Arm Score = 2

Step 3: Locate Wrist Position

 Final Wrist Score = 3

Step 4: Wrist Twist
 If wrist is twisted mainly in mid-range = 1
 If twist at or near end of working range = 2

Step 5: Lookup Posture Score in Table A
 Use values from steps 1, 2, & 3 to locate Posture Score in Table A.

Step 6: Add Muscle Use Score
 If action requires pinch, add 1 for pinch, 2 for power.
 If action requires release, add 1 for release, 2 for power.

Step 7: Add Force/Load Score
 If 2 kg to 10 kg (static or repeated) = 1
 If 10 kg to 15 kg (static or repeated) = 2
 If more than 15 kg (static or repeated) = 3

Step 8: Find Row in Table C
 The combined score from the Arm/Wrist analysis is used to find the row on Table C.

Step 9: Adjust...
 If rep is twisted = 1; Rep is twisting = 1
 If rep is twisted = 1; Rep is twisting = 1

Step 10: Locate Trunk Position

 Final Trunk Score = 2

Step 11: Legs
 If legs are supported and balanced = 1
 If not = 2

Step 12: Lookup Posture Score in Table B
 Use values from steps 9, 10, & 11 to locate Posture Score in Table B.

Step 13: Add Muscle Use Score
 If action requires pinch, add 1 for pinch, 2 for power.
 If action requires release, add 1 for release, 2 for power.

Step 14: Add Force/Load Score
 If 2 kg to 10 kg (static or repeated) = 1
 If 10 kg to 15 kg (static or repeated) = 2
 If more than 15 kg (static or repeated) = 3

Step 15: Find Column in Table C
 The combined score from the Neck/Trunk & Leg analysis is used to find the column in Table C.

Final Score = 4

Subject: Sigora banyan, Wawan, Suaryany
Company: Arjuna River
Department: Arjuna River
Scorer: Frangier
Date: 1/1

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 investigate further; 5 or 6 investigate further and change soon; 7 investigate and change immediately

Source: McAtamney, L. & Corlett, E.N. (1993) RULA: a simple method for the investigation of work-related upper limb disorders. *Applied Ergonomics*, 24(2) 91-99.
 © Professor Alan Hedge, Cornell University, Feb. 2001

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
 -20° to +20°
 If shoulder is abducted +1;
 If arm is extended or flexed in bending -1

Step 1a: Adjust...
 If shoulder is abducted +1;
 If arm is extended or flexed in bending -1

Step 2: Locate Lower Arm Position
 -90° to +90°
 If forearm is pronated or supinated in bending -1;
 If forearm is pronated or supinated in bending -1

Step 2a: Adjust...
 If forearm is pronated or supinated in bending -1;
 If forearm is pronated or supinated in bending -1

Step 3: Locate Wrist Position
 -15° to +15°
 If wrist is bent from the midline +1;
 If wrist is bent from the midline +1

Step 3a: Adjust...
 If wrist is bent from the midline +1;
 If wrist is bent from the midline +1

Step 4: Wrist Twist
 If wrist is twisted mainly in mid-range =1;
 If wrist is twisted mainly in mid-range =2

Step 5: Look-up Posture Score in Table A
 Use values from steps 1, 2, 3, 4 to locate Posture Score in Table A.

Step 6: Add Muscle Use Score
 If posture is static add 0; if add or subtract from 0 (usually or if static repeatedly) score 4 times per minute or more +1

Step 7: Add Force/load Score
 If load is less than 2.5 kg (5.5 lb) add 0; if load is 2.5 kg to 5 kg (5.5 lb to 11 lb) add 1; if load is 5 kg to 10 kg (11 lb to 22 lb) add 2; if load is 10 kg to 15 kg (22 lb to 33 lb) add 3; if load is 15 kg to 20 kg (33 lb to 44 lb) add 4; if load is 20 kg to 25 kg (44 lb to 55 lb) add 5; if load is 25 kg to 30 kg (55 lb to 66 lb) add 6; if load is 30 kg to 35 kg (66 lb to 77 lb) add 7; if load is 35 kg to 40 kg (77 lb to 88 lb) add 8; if load is 40 kg to 45 kg (88 lb to 99 lb) add 9; if load is 45 kg to 50 kg (99 lb to 110 lb) add 10; if load is 50 kg to 55 kg (110 lb to 121 lb) add 11; if load is 55 kg to 60 kg (121 lb to 132 lb) add 12; if load is 60 kg to 65 kg (132 lb to 143 lb) add 13; if load is 65 kg to 70 kg (143 lb to 154 lb) add 14; if load is 70 kg to 75 kg (154 lb to 165 lb) add 15; if load is 75 kg to 80 kg (165 lb to 176 lb) add 16; if load is 80 kg to 85 kg (176 lb to 187 lb) add 17; if load is 85 kg to 90 kg (187 lb to 198 lb) add 18; if load is 90 kg to 95 kg (198 lb to 209 lb) add 19; if load is 95 kg to 100 kg (209 lb to 220 lb) add 20; if load is 100 kg to 105 kg (220 lb to 231 lb) add 21; if load is 105 kg to 110 kg (231 lb to 242 lb) add 22; if load is 110 kg to 115 kg (242 lb to 253 lb) add 23; if load is 115 kg to 120 kg (253 lb to 264 lb) add 24; if load is 120 kg to 125 kg (264 lb to 275 lb) add 25; if load is 125 kg to 130 kg (275 lb to 286 lb) add 26; if load is 130 kg to 135 kg (286 lb to 297 lb) add 27; if load is 135 kg to 140 kg (297 lb to 308 lb) add 28; if load is 140 kg to 145 kg (308 lb to 319 lb) add 29; if load is 145 kg to 150 kg (319 lb to 330 lb) add 30; if load is 150 kg to 155 kg (330 lb to 341 lb) add 31; if load is 155 kg to 160 kg (341 lb to 352 lb) add 32; if load is 160 kg to 165 kg (352 lb to 363 lb) add 33; if load is 165 kg to 170 kg (363 lb to 374 lb) add 34; if load is 170 kg to 175 kg (374 lb to 385 lb) add 35; if load is 175 kg to 180 kg (385 lb to 396 lb) add 36; if load is 180 kg to 185 kg (396 lb to 407 lb) add 37; if load is 185 kg to 190 kg (407 lb to 418 lb) add 38; if load is 190 kg to 195 kg (418 lb to 429 lb) add 39; if load is 195 kg to 200 kg (429 lb to 440 lb) add 40; if load is 200 kg to 205 kg (440 lb to 451 lb) add 41; if load is 205 kg to 210 kg (451 lb to 462 lb) add 42; if load is 210 kg to 215 kg (462 lb to 473 lb) add 43; if load is 215 kg to 220 kg (473 lb to 484 lb) add 44; if load is 220 kg to 225 kg (484 lb to 495 lb) add 45; if load is 225 kg to 230 kg (495 lb to 506 lb) add 46; if load is 230 kg to 235 kg (506 lb to 517 lb) add 47; if load is 235 kg to 240 kg (517 lb to 528 lb) add 48; if load is 240 kg to 245 kg (528 lb to 539 lb) add 49; if load is 245 kg to 250 kg (539 lb to 550 lb) add 50; if load is 250 kg to 255 kg (550 lb to 561 lb) add 51; if load is 255 kg to 260 kg (561 lb to 572 lb) add 52; if load is 260 kg to 265 kg (572 lb to 583 lb) add 53; if load is 265 kg to 270 kg (583 lb to 594 lb) add 54; if load is 270 kg to 275 kg (594 lb to 605 lb) add 55; if load is 275 kg to 280 kg (605 lb to 616 lb) add 56; if load is 280 kg to 285 kg (616 lb to 627 lb) add 57; if load is 285 kg to 290 kg (627 lb to 638 lb) add 58; if load is 290 kg to 295 kg (638 lb to 649 lb) add 59; if load is 295 kg to 300 kg (649 lb to 660 lb) add 60; if load is 300 kg to 305 kg (660 lb to 671 lb) add 61; if load is 305 kg to 310 kg (671 lb to 682 lb) add 62; if load is 310 kg to 315 kg (682 lb to 693 lb) add 63; if load is 315 kg to 320 kg (693 lb to 704 lb) add 64; if load is 320 kg to 325 kg (704 lb to 715 lb) add 65; if load is 325 kg to 330 kg (715 lb to 726 lb) add 66; if load is 330 kg to 335 kg (726 lb to 737 lb) add 67; if load is 335 kg to 340 kg (737 lb to 748 lb) add 68; if load is 340 kg to 345 kg (748 lb to 759 lb) add 69; if load is 345 kg to 350 kg (759 lb to 770 lb) add 70; if load is 350 kg to 355 kg (770 lb to 781 lb) add 71; if load is 355 kg to 360 kg (781 lb to 792 lb) add 72; if load is 360 kg to 365 kg (792 lb to 803 lb) add 73; if load is 365 kg to 370 kg (803 lb to 814 lb) add 74; if load is 370 kg to 375 kg (814 lb to 825 lb) add 75; if load is 375 kg to 380 kg (825 lb to 836 lb) add 76; if load is 380 kg to 385 kg (836 lb to 847 lb) add 77; if load is 385 kg to 390 kg (847 lb to 858 lb) add 78; if load is 390 kg to 395 kg (858 lb to 869 lb) add 79; if load is 395 kg to 400 kg (869 lb to 880 lb) add 80; if load is 400 kg to 405 kg (880 lb to 891 lb) add 81; if load is 405 kg to 410 kg (891 lb to 902 lb) add 82; if load is 410 kg to 415 kg (902 lb to 913 lb) add 83; if load is 415 kg to 420 kg (913 lb to 924 lb) add 84; if load is 420 kg to 425 kg (924 lb to 935 lb) add 85; if load is 425 kg to 430 kg (935 lb to 946 lb) add 86; if load is 430 kg to 435 kg (946 lb to 957 lb) add 87; if load is 435 kg to 440 kg (957 lb to 968 lb) add 88; if load is 440 kg to 445 kg (968 lb to 979 lb) add 89; if load is 445 kg to 450 kg (979 lb to 990 lb) add 90; if load is 450 kg to 455 kg (990 lb to 1001 lb) add 91; if load is 455 kg to 460 kg (1001 lb to 1012 lb) add 92; if load is 460 kg to 465 kg (1012 lb to 1023 lb) add 93; if load is 465 kg to 470 kg (1023 lb to 1034 lb) add 94; if load is 470 kg to 475 kg (1034 lb to 1045 lb) add 95; if load is 475 kg to 480 kg (1045 lb to 1056 lb) add 96; if load is 480 kg to 485 kg (1056 lb to 1067 lb) add 97; if load is 485 kg to 490 kg (1067 lb to 1078 lb) add 98; if load is 490 kg to 495 kg (1078 lb to 1089 lb) add 99; if load is 495 kg to 500 kg (1089 lb to 1100 lb) add 100; if load is 500 kg to 505 kg (1100 lb to 1111 lb) add 101; if load is 505 kg to 510 kg (1111 lb to 1122 lb) add 102; if load is 510 kg to 515 kg (1122 lb to 1133 lb) add 103; if load is 515 kg to 520 kg (1133 lb to 1144 lb) add 104; if load is 520 kg to 525 kg (1144 lb to 1155 lb) add 105; if load is 525 kg to 530 kg (1155 lb to 1166 lb) add 106; if load is 530 kg to 535 kg (1166 lb to 1177 lb) add 107; if load is 535 kg to 540 kg (1177 lb to 1188 lb) add 108; if load is 540 kg to 545 kg (1188 lb to 1199 lb) add 109; if load is 545 kg to 550 kg (1199 lb to 1210 lb) add 110; if load is 550 kg to 555 kg (1210 lb to 1221 lb) add 111; if load is 555 kg to 560 kg (1221 lb to 1232 lb) add 112; if load is 560 kg to 565 kg (1232 lb to 1243 lb) add 113; if load is 565 kg to 570 kg (1243 lb to 1254 lb) add 114; if load is 570 kg to 575 kg (1254 lb to 1265 lb) add 115; if load is 575 kg to 580 kg (1265 lb to 1276 lb) add 116; if load is 580 kg to 585 kg (1276 lb to 1287 lb) add 117; if load is 585 kg to 590 kg (1287 lb to 1298 lb) add 118; if load is 590 kg to 595 kg (1298 lb to 1309 lb) add 119; if load is 595 kg to 600 kg (1309 lb to 1320 lb) add 120; if load is 600 kg to 605 kg (1320 lb to 1331 lb) add 121; if load is 605 kg to 610 kg (1331 lb to 1342 lb) add 122; if load is 610 kg to 615 kg (1342 lb to 1353 lb) add 123; if load is 615 kg to 620 kg (1353 lb to 1364 lb) add 124; if load is 620 kg to 625 kg (1364 lb to 1375 lb) add 125; if load is 625 kg to 630 kg (1375 lb to 1386 lb) add 126; if load is 630 kg to 635 kg (1386 lb to 1397 lb) add 127; if load is 635 kg to 640 kg (1397 lb to 1408 lb) add 128; if load is 640 kg to 645 kg (1408 lb to 1419 lb) add 129; if load is 645 kg to 650 kg (1419 lb to 1430 lb) add 130; if load is 650 kg to 655 kg (1430 lb to 1441 lb) add 131; if load is 655 kg to 660 kg (1441 lb to 1452 lb) add 132; if load is 660 kg to 665 kg (1452 lb to 1463 lb) add 133; if load is 665 kg to 670 kg (1463 lb to 1474 lb) add 134; if load is 670 kg to 675 kg (1474 lb to 1485 lb) add 135; if load is 675 kg to 680 kg (1485 lb to 1496 lb) add 136; if load is 680 kg to 685 kg (1496 lb to 1507 lb) add 137; if load is 685 kg to 690 kg (1507 lb to 1518 lb) add 138; if load is 690 kg to 695 kg (1518 lb to 1529 lb) add 139; if load is 695 kg to 700 kg (1529 lb to 1540 lb) add 140; if load is 700 kg to 705 kg (1540 lb to 1551 lb) add 141; if load is 705 kg to 710 kg (1551 lb to 1562 lb) add 142; if load is 710 kg to 715 kg (1562 lb to 1573 lb) add 143; if load is 715 kg to 720 kg (1573 lb to 1584 lb) add 144; if load is 720 kg to 725 kg (1584 lb to 1595 lb) add 145; if load is 725 kg to 730 kg (1595 lb to 1606 lb) add 146; if load is 730 kg to 735 kg (1606 lb to 1617 lb) add 147; if load is 735 kg to 740 kg (1617 lb to 1628 lb) add 148; if load is 740 kg to 745 kg (1628 lb to 1639 lb) add 149; if load is 745 kg to 750 kg (1639 lb to 1650 lb) add 150; if load is 750 kg to 755 kg (1650 lb to 1661 lb) add 151; if load is 755 kg to 760 kg (1661 lb to 1672 lb) add 152; if load is 760 kg to 765 kg (1672 lb to 1683 lb) add 153; if load is 765 kg to 770 kg (1683 lb to 1694 lb) add 154; if load is 770 kg to 775 kg (1694 lb to 1705 lb) add 155; if load is 775 kg to 780 kg (1705 lb to 1716 lb) add 156; if load is 780 kg to 785 kg (1716 lb to 1727 lb) add 157; if load is 785 kg to 790 kg (1727 lb to 1738 lb) add 158; if load is 790 kg to 795 kg (1738 lb to 1749 lb) add 159; if load is 795 kg to 800 kg (1749 lb to 1760 lb) add 160; if load is 800 kg to 805 kg (1760 lb to 1771 lb) add 161; if load is 805 kg to 810 kg (1771 lb to 1782 lb) add 162; if load is 810 kg to 815 kg (1782 lb to 1793 lb) add 163; if load is 815 kg to 820 kg (1793 lb to 1804 lb) add 164; if load is 820 kg to 825 kg (1804 lb to 1815 lb) add 165; if load is 825 kg to 830 kg (1815 lb to 1826 lb) add 166; if load is 830 kg to 835 kg (1826 lb to 1837 lb) add 167; if load is 835 kg to 840 kg (1837 lb to 1848 lb) add 168; if load is 840 kg to 845 kg (1848 lb to 1859 lb) add 169; if load is 845 kg to 850 kg (1859 lb to 1870 lb) add 170; if load is 850 kg to 855 kg (1870 lb to 1881 lb) add 171; if load is 855 kg to 860 kg (1881 lb to 1892 lb) add 172; if load is 860 kg to 865 kg (1892 lb to 1903 lb) add 173; if load is 865 kg to 870 kg (1903 lb to 1914 lb) add 174; if load is 870 kg to 875 kg (1914 lb to 1925 lb) add 175; if load is 875 kg to 880 kg (1925 lb to 1936 lb) add 176; if load is 880 kg to 885 kg (1936 lb to 1947 lb) add 177; if load is 885 kg to 890 kg (1947 lb to 1958 lb) add 178; if load is 890 kg to 895 kg (1958 lb to 1969 lb) add 179; if load is 895 kg to 900 kg (1969 lb to 1980 lb) add 180; if load is 900 kg to 905 kg (1980 lb to 1991 lb) add 181; if load is 905 kg to 910 kg (1991 lb to 2002 lb) add 182; if load is 910 kg to 915 kg (2002 lb to 2013 lb) add 183; if load is 915 kg to 920 kg (2013 lb to 2024 lb) add 184; if load is 920 kg to 925 kg (2024 lb to 2035 lb) add 185; if load is 925 kg to 930 kg (2035 lb to 2046 lb) add 186; if load is 930 kg to 935 kg (2046 lb to 2057 lb) add 187; if load is 935 kg to 940 kg (2057 lb to 2068 lb) add 188; if load is 940 kg to 945 kg (2068 lb to 2079 lb) add 189; if load is 945 kg to 950 kg (2079 lb to 2090 lb) add 190; if load is 950 kg to 955 kg (2090 lb to 2101 lb) add 191; if load is 955 kg to 960 kg (2101 lb to 2112 lb) add 192; if load is 960 kg to 965 kg (2112 lb to 2123 lb) add 193; if load is 965 kg to 970 kg (2123 lb to 2134 lb) add 194; if load is 970 kg to 975 kg (2134 lb to 2145 lb) add 195; if load is 975 kg to 980 kg (2145 lb to 2156 lb) add 196; if load is 980 kg to 985 kg (2156 lb to 2167 lb) add 197; if load is 985 kg to 990 kg (2167 lb to 2178 lb) add 198; if load is 990 kg to 995 kg (2178 lb to 2189 lb) add 199; if load is 995 kg to 1000 kg (2189 lb to 2200 lb) add 200; if load is 1000 kg to 1005 kg (2200 lb to 2211 lb) add 201; if load is 1005 kg to 1010 kg (2211 lb to 2222 lb) add 202; if load is 1010 kg to 1015 kg (2222 lb to 2233 lb) add 203; if load is 1015 kg to 1020 kg (2233 lb to 2244 lb) add 204; if load is 1020 kg to 1025 kg (2244 lb to 2255 lb) add 205; if load is 1025 kg to 1030 kg (2255 lb to 2266 lb) add 206; if load is 1030 kg to 1035 kg (2266 lb to 2277 lb) add 207; if load is 1035 kg to 1040 kg (2277 lb to 2288 lb) add 208; if load is 1040 kg to 1045 kg (2288 lb to 2299 lb) add 209; if load is 1045 kg to 1050 kg (2299 lb to 2310 lb) add 210; if load is 1050 kg to 1055 kg (2310 lb to 2321 lb) add 211; if load is 1055 kg to 1060 kg (2321 lb to 2332 lb) add 212; if load is 1060 kg to 1065 kg (2332 lb to 2343 lb) add 213; if load is 1065 kg to 1070 kg (2343 lb to 2354 lb) add 214; if load is 1070 kg to 1075 kg (2354 lb to 2365 lb) add 215; if load is 1075 kg to 1080 kg (2365 lb to 2376 lb) add 216; if load is 1080 kg to 1085 kg (2376 lb to 2387 lb) add 217; if load is 1085 kg to 1090 kg (2387 lb to 2398 lb) add 218; if load is 1090 kg to 1095 kg (2398 lb to 2409 lb) add 219; if load is 1095 kg to 1100 kg (2409 lb to 2420 lb) add 220; if load is 1100 kg to 1105 kg (2420 lb to 2431 lb) add 221; if load is 1105 kg to 1110 kg (2431 lb to 2442 lb) add 222; if load is 1110 kg to 1115 kg (2442 lb to 2453 lb) add 223; if load is 1115 kg to 1120 kg (2453 lb to 2464 lb) add 224; if load is 1120 kg to 1125 kg (2464 lb to 2475 lb) add 225; if load is 1125 kg to 1130 kg (2475 lb to 2486 lb) add 226; if load is 1130 kg to 1135 kg (2486 lb to 2497 lb) add 227; if load is 1135 kg to 1140 kg (2497 lb to 2508 lb) add 228; if load is 1140 kg to 1145 kg (2508 lb to 2519 lb) add 229; if load is 1145 kg to 1150 kg (2519 lb to 2530 lb) add 230; if load is 1150 kg to 1155 kg (2530 lb to 2541 lb) add 231; if load is 1155 kg to 1160 kg (2541 lb to 2552 lb) add 232; if load is 1160 kg to 1165 kg (2552 lb to 2563 lb) add 233; if load is 1165 kg to 1170 kg (2563 lb to 2574 lb) add 234; if load is 1170 kg to 1175 kg (2574 lb to 2585 lb) add 235; if load is 1175 kg to 1180 kg (2585 lb to 2596 lb) add 236; if load is 1180 kg to 1185 kg (2596 lb to 2607 lb) add 237; if load is 1185 kg to 1190 kg (2607 lb to 2618 lb) add 238; if load is 1190 kg to 1195 kg (2618 lb to 2629 lb) add 239; if load is 1195 kg to 1200 kg (2629 lb to 2640 lb) add 240; if load is 1200 kg to 1205 kg (2640 lb to 2651 lb) add 241; if load is 1205 kg to 1210 kg (2651 lb to 2662 lb) add 242; if load is 1210 kg to 1215 kg (2662 lb to 2673 lb) add 243; if load is 1215 kg to 1220 kg (2673 lb to 2684 lb) add 244; if load is 1220 kg to 1225 kg (2684 lb to 2695 lb) add 245; if load is 1225 kg to 1230 kg (2695 lb to 2706 lb) add 246; if load is 1230 kg to 1235 kg (2706 lb to 2717 lb) add 247; if load is 1235 kg to 1240 kg (2717 lb to 2728 lb) add 248; if load is 1240 kg to 1245 kg (2728 lb to 2739 lb) add 249; if load is 1245 kg to 1250 kg (2739 lb to 2750 lb) add 250; if load is 1250 kg to 1255 kg (2750 lb to 2761 lb) add 251; if load is 1255 kg to 1260 kg (2761 lb to 2772 lb) add 252; if load is 1260 kg to 1265 kg (2772 lb to 2783 lb) add 253; if load is 1265 kg to 1270 kg (2783 lb to 2794 lb) add 254; if load is 1270 kg to 1275 kg (2794 lb to 2805 lb) add 255; if load is 1275 kg to 1280 kg (2805 lb to 2816 lb) add 256; if load is 1280 kg to 1285 kg (2816 lb to 2827 lb) add 257; if load is 1285 kg to 1290 kg (2827 lb to 2838 lb) add 258; if load is 1290 kg to 1295 kg (2838 lb to 2849 lb) add 259; if load is 1295 kg to 1300 kg (2849 lb to 2860 lb) add 260; if load is 1300 kg to 1305 kg (2860 lb to 2871 lb) add 261; if load is 1305 kg to 1310 kg (2871 lb to 2882 lb) add 262; if load is 1310 kg to 1315 kg (2882 lb to 2893 lb) add 263; if load is 1315 kg to 1320 kg (2893 lb to 2904 lb) add 264; if load is 1320 kg to 1325 kg (2904 lb to 2915 lb) add 265; if load is 1325 kg to 1330 kg (2915 lb to 2926 lb) add 266; if load is 1330 kg to 1335 kg (2926 lb to 2937 lb) add 267; if load is 1335 kg to 1340 kg (2937 lb to 2948 lb) add 268; if load is 1340 kg to 1345 kg (2948 lb to 2959 lb) add 269; if load is 1345 kg to 1350 kg (2959 lb to 2970 lb) add 270; if load is 1350 kg to 1355 kg (2970 lb to 2981 lb) add 271; if load is 1355 kg to 1360 kg (2981 lb to 2992 lb) add 272; if load is 1360 kg to 1365 kg (2992 lb to 3003 lb) add 273; if load is 1365 kg to 1370 kg (3003 lb to 3014 lb) add 274; if load is 1370 kg to 1375 kg (3014 lb to 3025 lb) add 275; if load is 1375 kg to 1380 kg (3025 lb to 3036 lb) add 276; if load is 1380 kg to 1385 kg (3036 lb to 3047 lb) add 277; if load is 1385 kg to 1390 kg (3047 lb to 3058 lb) add 278; if load is 1390 kg to 1395 kg (3058 lb to 3069 lb) add 279; if load is 1395 kg to 1400 kg (3069 lb to 3080 lb) add 280; if load is 1400 kg to 1405 kg (3080 lb to 3091 lb) add 281; if load is 1405 kg to 1410 kg (3091 lb to 3102 lb) add 282; if load is 1410 kg to 1415 kg (3102 lb to 3113 lb) add 283; if load is 1415 kg to 1420 kg (3113 lb to 3124 lb) add 284; if load is 1420 kg to 1425 kg (3124 lb to 3135 lb) add 285; if load is 1425 kg to 1430 kg (3135 lb to 3146 lb) add 286; if load is 1430 kg to 1435 kg (3146 lb to 3157 lb) add 287; if load is 1435 kg to 1440 kg (3157 lb to 3168 lb) add 288; if load is 1440 kg to 1445 kg (3168 lb to 3179 lb) add 289; if load is 1445 kg to 1450 kg (3179 lb to 3190 lb) add 290; if load is 1450 kg to 1455 kg (3190 lb to 3201 lb) add 291; if load is 1455 kg to 1460 kg (3201 lb to 3212 lb) add 292; if load is 1460 kg to 1465 kg (3212 lb to 3223 lb) add 293; if load is 1465 kg to 1470 kg (3223 lb to 3234 lb) add 294; if load is 1470 kg to 1475 kg (3234 lb to 3245 lb) add 295; if load is 1475 kg to 1480 kg (3245 lb to 3256 lb) add 296; if load is 1480 kg to 1485 kg (3256 lb to 3267 lb) add 297; if load is 1485 kg to 1490 kg (3267 lb to 3278 lb) add 298; if load is 1490 kg to 1495 kg (3278 lb to 3289 lb) add 299; if load is 1495 kg to 1500 kg (3289 lb to 3300 lb) add 300; if load is 1500 kg to 1505 kg (3300 lb to 3311 lb) add 301; if load is 1505 kg to 1510 kg (3311 lb to 3322 lb) add 302; if load is 1510 kg to 1515 kg (3322 lb to 3333 lb) add 303; if load is 1515 kg to 1520 kg (3333 lb to 3344 lb) add 304; if load is 1520 kg to 1525 kg (3344 lb to 3355 lb) add 305; if load is 1525 kg to 1530 kg (3355 lb to 3366 lb) add 306; if load is 1530 kg to 1535 kg (3366 lb to 3377 lb) add 307; if load is 1535 kg to 1540 kg (3377 lb to 3388 lb) add 308; if load is 1540 kg to 1545 kg (3388 lb to 3399 lb) add 309; if load is 1545 kg to 1550 kg (3399 lb to 3410 lb) add 310; if load is 1550 kg to 1555 kg (3410 lb to 3421 lb) add 311; if load is 1555 kg to 1560 kg (3421 lb to 3432 lb) add 312; if load is 1560 kg to 1565 kg (3432 lb to 3443 lb) add 313; if load is 1565 kg to 1570 kg (3443 lb to 3454 lb) add 314; if load is 1570 kg to 1575 kg (3454 lb to 3465 lb) add 315; if load is 1575 kg to 1580 kg (3465 lb to 3476 lb) add 316; if load is 1580 kg to 1585 kg (3476 lb to 3487 lb) add 317; if load is 1585 kg to 1590 kg (3487 lb to 3498 lb) add 318; if load is 1590 kg to 1595 kg (3498 lb to 3509 lb) add 319; if load is 1595 kg to 1600 kg (3509 lb to 3520 lb) add 320; if load is 1600 kg to 1605 kg (3520 lb to 3531 lb) add 321; if load is 1605 kg to 1610 kg (3531 lb to 3542 lb) add 322; if load is 1610 kg to 1615 kg (3542 lb to 3553 lb) add 323; if load is 1615 kg to 1620 kg (3553 lb to 3564 lb) add 324; if load is 1620 kg to 1625 kg (3564 lb to 3575 lb) add 325; if load is 1625 kg to 1630 kg (3575 lb to 3586 lb) add 326; if load is 1630 kg to 1635 kg (3586 lb to 3597 lb) add 327; if load is 1635 kg to 1640 kg (3597 lb to 3608 lb) add 328; if load is 1640 kg to 1645 kg (3608 lb to 3619 lb) add 329; if load is 1645 kg to 1650 kg (3619 lb to 3630 lb) add 330; if load is 1650 kg to 1655 kg (3630 lb to 3641 lb) add 331; if load is 1655 kg to 1660 kg (3641 lb to 3652 lb) add 332; if load is 1660 kg to 1665 kg (3652 lb to 3663 lb) add 333; if load is 1665 kg to 1670 kg (3663 lb to 3674 lb) add 334; if load is 1670 kg to 1675 kg (3674 lb to 3685 lb) add 335; if load is 1675 kg to 1680 kg (3685 lb to 3696 lb) add 336; if load is 1680 kg to 1685 kg (3696 lb to 3707 lb) add 337; if load is 1685 kg to 1690 kg (3707 lb to 3718 lb) add 338; if load is 1690 kg to 1695 kg (3718 lb to 3729 lb) add 339; if load is 1695 kg to 1700 kg (3729 lb to 3740 lb) add 340; if load is 1700 kg to 1705 kg (3740 lb to 3751 lb) add 341; if load is 1705 kg to 1710 kg (3751 lb to 3762 lb) add 342; if load is 1710 kg to 1715 kg (3762 lb to 3773 lb) add 343; if load is 1715 kg to 1720 kg (3773 lb to 3784 lb) add 344; if load is 1720 kg to 1725 kg (37

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
 0° to 180°
 If shoulder is abducted +1
 If shoulder is extended +1
 If elbow is flexed +1
 If forearm is pronated +1

Step 2: Locate Lower Arm Position
 0° to 180°
 If wrist is flexed +1
 If wrist is extended +1
 If wrist is ulnar deviated +1
 If wrist is radial deviated +1

Step 3: Locate Wrist Position
 0° to 180°
 If wrist is bent from the middle +1
 If wrist is twisted +1
 If wrist is bent from the middle +1
 If wrist is twisted +1

Step 4: Wrist Twist
 If wrist is twisted +1
 If wrist is bent from the middle +1
 If wrist is twisted +1

Step 5: Look-up Posture Score in Table A
 Use values from Steps 1, 2, 3, & 4 to locate Posture Score in Table A.

Step 6: Add Muscle Use Score
 If posture mainly static (i.e., held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more +1
 If posture mainly static (i.e., held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more +1

Step 7: Add Force/Load Score
 If force is 2 kg to 10 kg (static or repeated) +1
 If force is 10 kg to 15 kg (static or repeated) +2
 If force is 15 kg to 20 kg (static or repeated) +3
 If force is 20 kg to 25 kg (static or repeated) +4
 If force is 25 kg to 30 kg (static or repeated) +5

Step 8: Find Row in Table C
 The combined score from the Arm/Wrist analysis is used to find the row in Table C.

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position
 0° to 180°
 If neck is flexed +1
 If neck is extended +1
 If neck is rotated +1
 If neck is laterally bent +1

Step 10: Locate Trunk Position
 0° to 180°
 If trunk is flexed +1
 If trunk is extended +1
 If trunk is rotated +1
 If trunk is laterally bent +1

Step 11: Locate Hip Position
 0° to 180°
 If hip is flexed +1
 If hip is extended +1
 If hip is rotated +1
 If hip is laterally bent +1

Step 12: Look-up Posture Score in Table B
 Use values from Steps 5, 6, 7, & 8 to locate Posture Score in Table B.

Step 13: Add Muscle Use Score
 If posture mainly static (i.e., held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more +1
 If posture mainly static (i.e., held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more +1

Step 14: Add Force/Load Score
 If force is 2 kg to 10 kg (static or repeated) +1
 If force is 10 kg to 15 kg (static or repeated) +2
 If force is 15 kg to 20 kg (static or repeated) +3
 If force is 20 kg to 25 kg (static or repeated) +4
 If force is 25 kg to 30 kg (static or repeated) +5

Step 15: Find Column in Table C
 The combined score from the Neck/Trunk & Leg analysis is used to find the column in Table C.

Table A: Arm & Wrist Posture Scores

Step 1	Step 2	Step 3	Step 4	Score
1	1	1	1	1
1	1	1	2	2
1	1	1	3	3
1	1	1	4	4
1	1	1	5	5
1	1	2	1	2
1	1	2	2	3
1	1	2	3	4
1	1	2	4	5
1	1	2	5	6
1	1	3	1	3
1	1	3	2	4
1	1	3	3	5
1	1	3	4	6
1	1	3	5	7
1	1	4	1	4
1	1	4	2	5
1	1	4	3	6
1	1	4	4	7
1	1	4	5	8
1	1	5	1	5
1	1	5	2	6
1	1	5	3	7
1	1	5	4	8
1	1	5	5	9
1	2	1	1	2
1	2	1	2	3
1	2	1	3	4
1	2	1	4	5
1	2	1	5	6
1	2	2	1	3
1	2	2	2	4
1	2	2	3	5
1	2	2	4	6
1	2	2	5	7
1	2	3	1	4
1	2	3	2	5
1	2	3	3	6
1	2	3	4	7
1	2	3	5	8
1	2	4	1	5
1	2	4	2	6
1	2	4	3	7
1	2	4	4	8
1	2	4	5	9
1	2	5	1	6
1	2	5	2	7
1	2	5	3	8
1	2	5	4	9
1	2	5	5	10
1	3	1	1	3
1	3	1	2	4
1	3	1	3	5
1	3	1	4	6
1	3	1	5	7
1	3	2	1	4
1	3	2	2	5
1	3	2	3	6
1	3	2	4	7
1	3	2	5	8
1	3	3	1	5
1	3	3	2	6
1	3	3	3	7
1	3	3	4	8
1	3	3	5	9
1	3	4	1	6
1	3	4	2	7
1	3	4	3	8
1	3	4	4	9
1	3	4	5	10
1	3	5	1	7
1	3	5	2	8
1	3	5	3	9
1	3	5	4	10
1	3	5	5	11
1	4	1	1	4
1	4	1	2	5
1	4	1	3	6
1	4	1	4	7
1	4	1	5	8
1	4	2	1	5
1	4	2	2	6
1	4	2	3	7
1	4	2	4	8
1	4	2	5	9
1	4	3	1	6
1	4	3	2	7
1	4	3	3	8
1	4	3	4	9
1	4	3	5	10
1	4	4	1	7
1	4	4	2	8
1	4	4	3	9
1	4	4	4	10
1	4	4	5	11
1	4	5	1	8
1	4	5	2	9
1	4	5	3	10
1	4	5	4	11
1	4	5	5	12
1	5	1	1	5
1	5	1	2	6
1	5	1	3	7
1	5	1	4	8
1	5	1	5	9
1	5	2	1	6
1	5	2	2	7
1	5	2	3	8
1	5	2	4	9
1	5	2	5	10
1	5	3	1	7
1	5	3	2	8
1	5	3	3	9
1	5	3	4	10
1	5	3	5	11
1	5	4	1	8
1	5	4	2	9
1	5	4	3	10
1	5	4	4	11
1	5	4	5	12
1	5	5	1	9
1	5	5	2	10
1	5	5	3	11
1	5	5	4	12
1	5	5	5	13
2	1	1	1	1
2	1	1	2	2
2	1	1	3	3
2	1	1	4	4
2	1	1	5	5
2	1	2	1	2
2	1	2	2	3
2	1	2	3	4
2	1	2	4	5
2	1	2	5	6
2	1	3	1	3
2	1	3	2	4
2	1	3	3	5
2	1	3	4	6
2	1	3	5	7
2	1	4	1	4
2	1	4	2	5
2	1	4	3	6
2	1	4	4	7
2	1	4	5	8
2	1	5	1	5
2	1	5	2	6
2	1	5	3	7
2	1	5	4	8
2	1	5	5	9
2	2	1	1	2
2	2	1	2	3
2	2	1	3	4
2	2	1	4	5
2	2	1	5	6
2	2	2	1	3
2	2	2	2	4
2	2	2	3	5
2	2	2	4	6
2	2	2	5	7
2	2	3	1	4
2	2	3	2	5
2	2	3	3	6
2	2	3	4	7
2	2	3	5	8
2	2	4	1	5
2	2	4	2	6
2	2	4	3	7
2	2	4	4	8
2	2	4	5	9
2	2	5	1	6
2	2	5	2	7
2	2	5	3	8
2	2	5	4	9
2	2	5	5	10
2	3	1	1	3
2	3	1	2	4
2	3	1	3	5
2	3	1	4	6
2	3	1	5	7
2	3	2	1	4
2	3	2	2	5
2	3	2	3	6
2	3	2	4	7
2	3	2	5	8
2	3	3	1	5
2	3	3	2	6
2	3	3	3	7
2	3	3	4	8
2	3	3	5	9
2	3	4	1	6
2	3	4	2	7
2	3	4	3	8
2	3	4	4	9
2	3	4	5	10
2	3	5	1	7
2	3	5	2	8
2	3	5	3	9
2	3	5	4	10
2	3	5	5	11
2	4	1	1	4
2	4	1	2	5
2	4	1	3	6
2	4	1	4	7
2	4	1	5	8
2	4	2	1	5
2	4	2	2	6
2	4	2	3	7
2	4	2	4	8
2	4	2	5	9
2	4	3	1	6
2	4	3	2	7
2	4	3	3	8
2	4	3	4	9
2	4	3	5	10
2	4	4	1	7
2	4	4	2	8
2	4	4	3	9
2	4	4	4	10
2	4	4	5	11
2	4	5	1	8
2	4	5	2	9
2	4	5	3	10
2	4	5	4	11
2	4	5	5	12
2	5	1	1	5
2	5	1	2	6
2	5	1	3	7
2	5	1	4	8
2	5	1	5	9
2	5	2	1	6
2	5	2	2	7
2	5	2	3	8
2	5	2	4	9
2	5	2	5	10
2	5	3	1	7
2	5	3	2	8
2	5	3	3	9
2	5	3	4	10
2	5	3	5	11
2	5	4	1	8
2	5	4	2	9
2	5	4	3	10
2	5	4	4	11
2	5	4	5	12
2	5	5	1	9
2	5	5	2	10
2	5	5	3	11
2	5	5	4	12
2	5	5	5	13

Table B: Neck, Trunk & Leg Posture Scores

Step 9	Step 10	Step 11	Score
1	1	1	1
1	1	2	2
1	1	3	3
1	1	4	4
1	1	5	5
1	2	1	2
1	2	2	3
1	2	3	4
1	2	4	5
1	2	5	6
1	3	1	3
1	3	2	4
1	3	3	5
1	3	4	6
1	3	5	7
1	4	1	4
1	4	2	5
1	4	3	6
1	4	4	7
1	4	5	8
1	5	1	5
1	5	2	6
1	5	3	7
1	5	4	8
1	5	5	9
2	1	1	1
2	1	2	2
2	1	3	3
2	1	4	4
2	1	5	5
2	2	1	2
2	2	2	3
2	2	3	4
2	2	4	5
2	2	5	6
2	3	1	3
2	3	2	4
2	3	3	5
2	3	4	6
2	3	5	7
2	4	1	4
2	4	2	5
2	4	3	6
2	4	4	7
2	4	5	8
2	5	1	5
2	5	2	6
2	5	3	7
2	5	4	8
2	5	5	9

Table C: Final Score

Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Score
1	1	1	1	1	1	1	1
1	1	1	2	1	1	1	2
1	1	1	3	1	1	1	3
1	1	1	4	1	1	1	4
1	1	1	5	1	1	1	5
1	1	2	1	1	1	1	2
1	1	2	2	1	1	1	3
1	1	2	3	1	1	1	4
1	1	2	4	1	1	1	

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
 -20° to +20° / -30° to +30° / +40° to +80°
 If shoulder is raised +1
 If arm is bent at elbow +1
 If arm is bent at elbow +1

Step 2: Locate Lower Arm Position
 -60° to +10° / 0° to +45° / +45° to +90°
 If wrist is bent from the middle +1
 If wrist is bent from the middle +1
 If wrist is bent from the middle +1

Step 3: Locate Wrist Position
 -15° to +15° / 0° to +15° / +15° to +45°
 If wrist is bent from the middle +1
 If wrist is bent from the middle +1
 If wrist is bent from the middle +1

Step 4: Wrist Twist
 If wrist is twisted mainly in mid-range +1
 If wrist is twisted mainly in mid-range +1
 If wrist is twisted mainly in mid-range +1

Step 5: Look-up Posture Score in Table A
 Use values from steps 1, 2, 3, & 4 to locate Posture Score in Table A

Step 6: Add Muscle Use Score
 If posture mainly static (i.e. held for longer than 1 minute) +1
 If action reasonably active (i.e. held for less than 1 minute) +1

Step 7: Add Force/Load Score
 If load less than 2 kg (4.4 lbs) +1
 If 2 kg to 10 kg (4.4 to 22 lbs) +2
 If 10 kg to 15 kg (22 to 33 lbs) +3
 If 15 kg to 20 kg (33 to 44 lbs) +4
 If 20 kg to 25 kg (44 to 55 lbs) +5
 If 25 kg to 30 kg (55 to 66 lbs) +6
 If 30 kg to 35 kg (66 to 77 lbs) +7
 If 35 kg to 40 kg (77 to 88 lbs) +8
 If 40 kg to 45 kg (88 to 99 lbs) +9
 If 45 kg to 50 kg (99 to 110 lbs) +10

Step 8: Find Row in Table C
 The completed score from the Arm/Wrist analysis is used to find the row in Table C

Final Score = 3

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position
 0° to 15° / 15° to 30° / 30° to 45° / 45° to 60° / 60° to 75° / 75° to 90°
 If neck is twisted +1
 If neck is twisted +1
 If neck is twisted +1

Step 10: Locate Trunk Position
 0° to 10° / 10° to 20° / 20° to 30° / 30° to 40° / 40° to 50° / 50° to 60° / 60° to 70° / 70° to 80° / 80° to 90°
 If trunk is twisted +1
 If trunk is twisted +1
 If trunk is twisted +1

Step 11: Legs
 If legs & feet supported and balanced +1
 If legs & feet supported and balanced +1
 If legs & feet supported and balanced +1

Step 12: Look-up Posture Score in Table B
 Use values from steps 9, 10, & 11 to locate Posture Score in Table B

Step 13: Add Muscle Use Score
 If posture mainly static (i.e. held for longer than 1 minute) +1
 If action reasonably active (i.e. held for less than 1 minute) +1

Step 14: Add Force/Load Score
 If load less than 2 kg (4.4 lbs) +1
 If 2 kg to 10 kg (4.4 to 22 lbs) +2
 If 10 kg to 15 kg (22 to 33 lbs) +3
 If 15 kg to 20 kg (33 to 44 lbs) +4
 If 20 kg to 25 kg (44 to 55 lbs) +5
 If 25 kg to 30 kg (55 to 66 lbs) +6
 If 30 kg to 35 kg (66 to 77 lbs) +7
 If 35 kg to 40 kg (77 to 88 lbs) +8
 If 40 kg to 45 kg (88 to 99 lbs) +9
 If 45 kg to 50 kg (99 to 110 lbs) +10

Step 15: Find Column in Table C
 The completed score from the Neck/Trunk & Leg analysis is used to find the column in Table C

Final Score = 3

Table A

Upper Arm	Lower Arm	Wrist	Twist	Score
1	1	1	1	1
1	1	2	1	2
1	1	3	1	3
1	2	1	1	2
1	2	2	1	3
1	2	3	1	4
1	3	1	1	3
1	3	2	1	4
1	3	3	1	5
2	1	1	2	2
2	1	2	2	3
2	1	3	2	4
2	2	1	2	3
2	2	2	2	4
2	2	3	2	5
2	3	1	2	4
2	3	2	2	5
2	3	3	2	6
3	1	1	3	3
3	1	2	3	4
3	1	3	3	5
3	2	1	3	4
3	2	2	3	5
3	2	3	3	6
3	3	1	3	5
3	3	2	3	6
3	3	3	3	7

Table B

Neck	Trunk	Legs	Score
1	1	1	1
1	1	2	2
1	1	3	3
1	2	1	2
1	2	2	3
1	2	3	4
1	3	1	3
1	3	2	4
1	3	3	5
2	1	1	2
2	1	2	3
2	1	3	4
2	2	1	3
2	2	2	4
2	2	3	5
2	3	1	4
2	3	2	5
2	3	3	6
3	1	1	3
3	1	2	4
3	1	3	5
3	2	1	4
3	2	2	5
3	2	3	6
3	3	1	5
3	3	2	6
3	3	3	7

Table C

Arm/Wrist	Neck/Trunk & Leg	Score
1	1	1
1	2	2
1	3	3
1	4	4
1	5	5
1	6	6
1	7	7
1	8	8
1	9	9
1	10	10
2	1	2
2	2	3
2	3	4
2	4	5
2	5	6
2	6	7
2	7	8
2	8	9
2	9	10
2	10	11
3	1	3
3	2	4
3	3	5
3	4	6
3	5	7
3	6	8
3	7	9
3	8	10
3	9	11
3	10	12

Final Score = 3

Subject: Neck/Trunk & Leg
Company: PT. Sinar Jaya
Department: Production
Score: 3
Date: 1/1/2023

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 investigate further; 5 or 6 investigate further and change soon; 7 investigate and change immediately

Source: McAtamney, L. & Corlett, E.N. (1993) RULA: a survey method for the investigation of work-related upper limb disorders, *Applied Ergonomics*, 24(2) 91-99
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RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
If shoulder is bent from the midline: +1
If shoulder is bent: +2
If shoulder is bent > 20°: +3
If shoulder is bent > 45°: +4

Step 1a: Adjust...
If shoulder is bent > 20°: +1
If shoulder is bent > 45°: +2

Step 2: Locate Lower Arm Position
If forearm is bent from the midline: +1
If forearm is bent: +2
If forearm is bent > 20°: +3
If forearm is bent > 45°: +4

Step 2a: Adjust...
If forearm is bent > 20°: +1
If forearm is bent > 45°: +2

Step 3: Locate Wrist Position
If wrist is bent from the midline: +1
If wrist is bent: +2
If wrist is bent > 20°: +3
If wrist is bent > 45°: +4

Step 3a: Adjust...
If wrist is bent > 20°: +1
If wrist is bent > 45°: +2

Step 4: Wrist Twist
If wrist is twisted mainly in mid-range: +1
If wrist is twisted at or near end of twisting range: +2

Step 5: Look-up Posture Score in Table A
Use values from steps 1, 2, 3, 4 to locate Posture Score in Table A.

Step 6: Add Muscle Use Score
If posture is mainly static: 0
If action repeatedly occurs 4 times per minute or more: +1
If action repeatedly occurs 8 times per minute or more: +2

Step 7: Add Force/Load Score
If load is less than 2 kg (pounds): 0
If load is 2 to 4 kg (pounds): +1
If load is 4 to 8 kg (pounds): +2
If load is 8 to 12 kg (pounds): +3
If load is 12 to 16 kg (pounds): +4
If load is 16 to 20 kg (pounds): +5

Step 8: Find Row in Table C
The completed scores from the Arm/Wrist analysis are added to find the total on Table C.

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position
If head is tilted: +1
If head is tilted > 20°: +2
If head is tilted > 45°: +3
If head is tilted > 60°: +4

Step 9a: Adjust...
If head is tilted > 20°: +1
If head is tilted > 45°: +2
If head is tilted > 60°: +3

Step 10: Locate Trunk Position
If trunk is bent: +1
If trunk is bent > 20°: +2
If trunk is bent > 45°: +3
If trunk is bent > 60°: +4

Step 10a: Adjust...
If trunk is bent > 20°: +1
If trunk is bent > 45°: +2
If trunk is bent > 60°: +3

Step 11: Legs
If legs are bent: +1
If legs are bent > 20°: +2
If legs are bent > 45°: +3
If legs are bent > 60°: +4

Step 11a: Adjust...
If legs are bent > 20°: +1
If legs are bent > 45°: +2
If legs are bent > 60°: +3

Step 12: Look-up Posture Score in Table B
Use values from steps 9, 10, 11 to locate Posture Score in Table B.

Step 13: Add Muscle Use Score
If posture is mainly static: 0
If action repeatedly occurs 4 times per minute or more: +1
If action repeatedly occurs 8 times per minute or more: +2

Step 14: Add Force/Load Score
If load is less than 2 kg (pounds): 0
If load is 2 to 4 kg (pounds): +1
If load is 4 to 8 kg (pounds): +2
If load is 8 to 12 kg (pounds): +3
If load is 12 to 16 kg (pounds): +4
If load is 16 to 20 kg (pounds): +5

Step 15: Find Column in Table C
The completed scores from the Neck/Trunk/Leg analysis are added to find the total on Table C.

SCORES

Table A

Upper Arm	Lower Arm	Wrist	Twist	Muscle Use	Force/Load	Final Score
1	1	1	1	0	0	3
2	2	2	2	1	1	8
3	3	3	3	2	2	13
4	4	4	4	3	3	18
5	5	5	5	4	4	23
6	6	6	6	5	5	28
7	7	7	7	6	6	33
8	8	8	8	7	7	38
9	9	9	9	8	8	43
10	10	10	10	9	9	48
11	11	11	11	10	10	53
12	12	12	12	11	11	58
13	13	13	13	12	12	63
14	14	14	14	13	13	68
15	15	15	15	14	14	73
16	16	16	16	15	15	78
17	17	17	17	16	16	83
18	18	18	18	17	17	88
19	19	19	19	18	18	93
20	20	20	20	19	19	98

Table B

Neck	Trunk	Legs	Muscle Use	Force/Load	Final Score
1	1	1	0	0	3
2	2	2	1	1	8
3	3	3	2	2	13
4	4	4	3	3	18
5	5	5	4	4	23
6	6	6	5	5	28
7	7	7	6	6	33
8	8	8	7	7	38
9	9	9	8	8	43
10	10	10	9	9	48
11	11	11	10	10	53
12	12	12	11	11	58
13	13	13	12	12	63
14	14	14	13	13	68
15	15	15	14	14	73
16	16	16	15	15	78
17	17	17	16	16	83
18	18	18	17	17	88
19	19	19	18	18	93
20	20	20	19	19	98

Table C

Final Score	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
8	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
13	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
18	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
23	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
28	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
33	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
38	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
43	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
48	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
53	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
58	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
63	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
68	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
73	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
78	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
83	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
88	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
93	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
98	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39

Final Score = 4

Subject: Sepul Vector Kanan Gasing **Date:** 1/1/

Company: Angkon RNR **Department:** Pemeliharaan **Scorer:** Freya

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 investigate further; 5 or 6 investigate further and change soon; 7 investigate and change immediately

Source: McAtamney, L. & Corlett, E.N. (1993) RULA: a survey method for the investigation of work-related upper limb disorders. Applied Ergonomics, 24(2) 91-99.

© Professor Alan Hedge, Cornell University Feb. 2001

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
 0° to 15° = +1
 15° to 30° = +2
 30° to 45° = +3
 45° to 60° = +4
 60° to 75° = +5
 75° to 90° = +6
 If shoulder is bent, +1
 If forearm is bent, +1
 If arm is supported or person is leaning, -1
 If arm is not in line with body, -1

Step 2: Locate Lower Arm Position
 0° to 15° = +1
 15° to 30° = +2
 30° to 45° = +3
 45° to 60° = +4
 60° to 75° = +5
 75° to 90° = +6
 If forearm is bent, +1
 If wrist is bent, +1
 If wrist is at or near end of twisting range, +2

Step 3: Locate Wrist Position
 0° to 15° = +1
 15° to 30° = +2
 30° to 45° = +3
 45° to 60° = +4
 60° to 75° = +5
 75° to 90° = +6
 If wrist is bent from the middle, +1
 If wrist is bent from the middle, +1
 If wrist is bent from the middle, +1

Step 4: Wrist Twist
 If wrist is bent from the middle, +1
 If wrist is bent from the middle, +1
 If wrist is bent from the middle, +1

Step 5: Look-up Posture Score in Table A
 Use values from rows 1, 2, 3 & 4 to locate Posture Score in Table A.

Step 6: Add Muscle Use Score
 If posture nearly static (i.e. held for longer than 10 minutes), -1
 If posture nearly static (i.e. held for longer than 10 minutes), -1
 If posture nearly static (i.e. held for longer than 10 minutes), -1

Step 7: Add Force/Load Score
 If load less than 2 kg (4.4 lbs), +1
 If load less than 2 kg (4.4 lbs), +1
 If load less than 2 kg (4.4 lbs), +1

Step 8: Find Row in Table C
 The completed score from the Arm/Wrist analysis is used to find the row in Table C.

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position
 0° to 15° = +1
 15° to 30° = +2
 30° to 45° = +3
 45° to 60° = +4
 60° to 75° = +5
 75° to 90° = +6
 If neck is bent, +1
 If neck is bent, +1
 If neck is bent, +1

Step 10: Locate Trunk Position
 0° to 15° = +1
 15° to 30° = +2
 30° to 45° = +3
 45° to 60° = +4
 60° to 75° = +5
 75° to 90° = +6
 If trunk is bent, +1
 If trunk is bent, +1
 If trunk is bent, +1

Step 11: Legs
 If legs are bent, +1
 If legs are bent, +1
 If legs are bent, +1

Step 12: Look-up Posture Score in Table B
 Use values from rows 6, 7, 8 & 9 to locate Posture Score in Table B.

Step 13: Add Muscle Use Score
 If posture nearly static (i.e. held for longer than 10 minutes), -1
 If posture nearly static (i.e. held for longer than 10 minutes), -1
 If posture nearly static (i.e. held for longer than 10 minutes), -1

Step 14: Add Force/Load Score
 If load less than 2 kg (4.4 lbs), +1
 If load less than 2 kg (4.4 lbs), +1
 If load less than 2 kg (4.4 lbs), +1

Step 15: Find Column in Table C
 The completed score from the Neck/Trunk/Leg analysis is used to find the column in Table C.

Table A

Upper Arm	Lower Arm	Wrist	Twist	Score
1	1	1	1	1
1	1	2	1	2
1	1	3	1	3
1	1	4	1	4
1	1	5	1	5
1	1	6	1	6
1	2	1	1	7
1	2	2	1	8
1	2	3	1	9
1	2	4	1	10
1	2	5	1	11
1	2	6	1	12
1	3	1	1	13
1	3	2	1	14
1	3	3	1	15
1	3	4	1	16
1	3	5	1	17
1	3	6	1	18
1	4	1	1	19
1	4	2	1	20
1	4	3	1	21
1	4	4	1	22
1	4	5	1	23
1	4	6	1	24
1	5	1	1	25
1	5	2	1	26
1	5	3	1	27
1	5	4	1	28
1	5	5	1	29
1	5	6	1	30
1	6	1	1	31
1	6	2	1	32
1	6	3	1	33
1	6	4	1	34
1	6	5	1	35
1	6	6	1	36
2	1	1	2	37
2	1	2	2	38
2	1	3	2	39
2	1	4	2	40
2	1	5	2	41
2	1	6	2	42
2	2	1	2	43
2	2	2	2	44
2	2	3	2	45
2	2	4	2	46
2	2	5	2	47
2	2	6	2	48
2	3	1	2	49
2	3	2	2	50
2	3	3	2	51
2	3	4	2	52
2	3	5	2	53
2	3	6	2	54
2	4	1	2	55
2	4	2	2	56
2	4	3	2	57
2	4	4	2	58
2	4	5	2	59
2	4	6	2	60
2	5	1	2	61
2	5	2	2	62
2	5	3	2	63
2	5	4	2	64
2	5	5	2	65
2	5	6	2	66
2	6	1	2	67
2	6	2	2	68
2	6	3	2	69
2	6	4	2	70
2	6	5	2	71
2	6	6	2	72
3	1	1	3	73
3	1	2	3	74
3	1	3	3	75
3	1	4	3	76
3	1	5	3	77
3	1	6	3	78
3	2	1	3	79
3	2	2	3	80
3	2	3	3	81
3	2	4	3	82
3	2	5	3	83
3	2	6	3	84
3	3	1	3	85
3	3	2	3	86
3	3	3	3	87
3	3	4	3	88
3	3	5	3	89
3	3	6	3	90
3	4	1	3	91
3	4	2	3	92
3	4	3	3	93
3	4	4	3	94
3	4	5	3	95
3	4	6	3	96
3	5	1	3	97
3	5	2	3	98
3	5	3	3	99
3	5	4	3	100
3	5	5	3	101
3	5	6	3	102
3	6	1	3	103
3	6	2	3	104
3	6	3	3	105
3	6	4	3	106
3	6	5	3	107
3	6	6	3	108

Table B

Neck	Trunk	Legs	Score
1	1	1	1
1	1	2	2
1	1	3	3
1	1	4	4
1	1	5	5
1	1	6	6
1	2	1	7
1	2	2	8
1	2	3	9
1	2	4	10
1	2	5	11
1	2	6	12
1	3	1	13
1	3	2	14
1	3	3	15
1	3	4	16
1	3	5	17
1	3	6	18
1	4	1	19
1	4	2	20
1	4	3	21
1	4	4	22
1	4	5	23
1	4	6	24
1	5	1	25
1	5	2	26
1	5	3	27
1	5	4	28
1	5	5	29
1	5	6	30
2	1	1	31
2	1	2	32
2	1	3	33
2	1	4	34
2	1	5	35
2	1	6	36
2	2	1	37
2	2	2	38
2	2	3	39
2	2	4	40
2	2	5	41
2	2	6	42
2	3	1	43
2	3	2	44
2	3	3	45
2	3	4	46
2	3	5	47
2	3	6	48
2	4	1	49
2	4	2	50
2	4	3	51
2	4	4	52
2	4	5	53
2	4	6	54
2	5	1	55
2	5	2	56
2	5	3	57
2	5	4	58
2	5	5	59
2	5	6	60
3	1	1	61
3	1	2	62
3	1	3	63
3	1	4	64
3	1	5	65
3	1	6	66
3	2	1	67
3	2	2	68
3	2	3	69
3	2	4	70
3	2	5	71
3	2	6	72
3	3	1	73
3	3	2	74
3	3	3	75
3	3	4	76
3	3	5	77
3	3	6	78
3	4	1	79
3	4	2	80
3	4	3	81
3	4	4	82
3	4	5	83
3	4	6	84
3	5	1	85
3	5	2	86
3	5	3	87
3	5	4	88
3	5	5	89
3	5	6	90

Table C

Row	Column	Score
1	1	1
1	2	2
1	3	3
1	4	4
1	5	5
1	6	6
2	1	7
2	2	8
2	3	9
2	4	10
2	5	11
2	6	12
3	1	13
3	2	14
3	3	15
3	4	16
3	5	17
3	6	18
4	1	19
4	2	20
4	3	21
4	4	22
4	5	23
4	6	24
5	1	25
5	2	26
5	3	27
5	4	28
5	5	29
5	6	30
6	1	31
6	2	32
6	3	33
6	4	34
6	5	35
6	6	36
7	1	37
7	2	38
7	3	39
7	4	40
7	5	41
7	6	42
8	1	43
8	2	44
8	3	45
8	4	46
8	5	47
8	6	48
9	1	49
9	2	50
9	3	51
9	4	52
9	5	53
9	6	54
10	1	55
10	2	56
10	3	57
10	4	58
10	5	59
10	6	60

Final Score = 3

Subject: Prayer Silver **Department:** Production **Scorer:** Fransji **Date:** 1/1

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 investigate further; 5 or 6 investigate further and change soon; 7 investigate and change immediately

Source: McAtamney, L. & Corlett, E.N. (1993) RULA: a survey method for the investigation of work-related upper limb disorders. *Applied Ergonomics*, 24(2) 91-99.
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