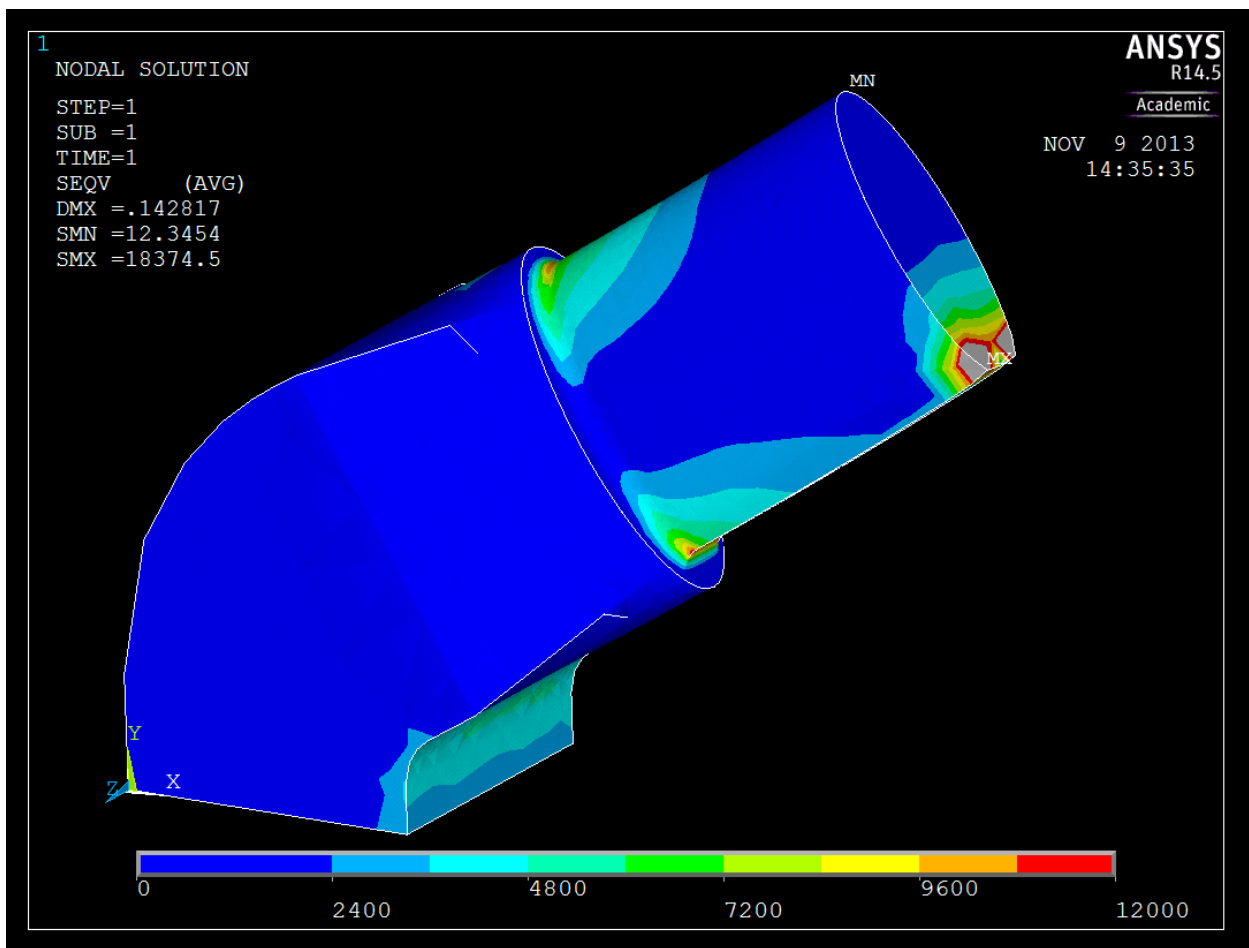
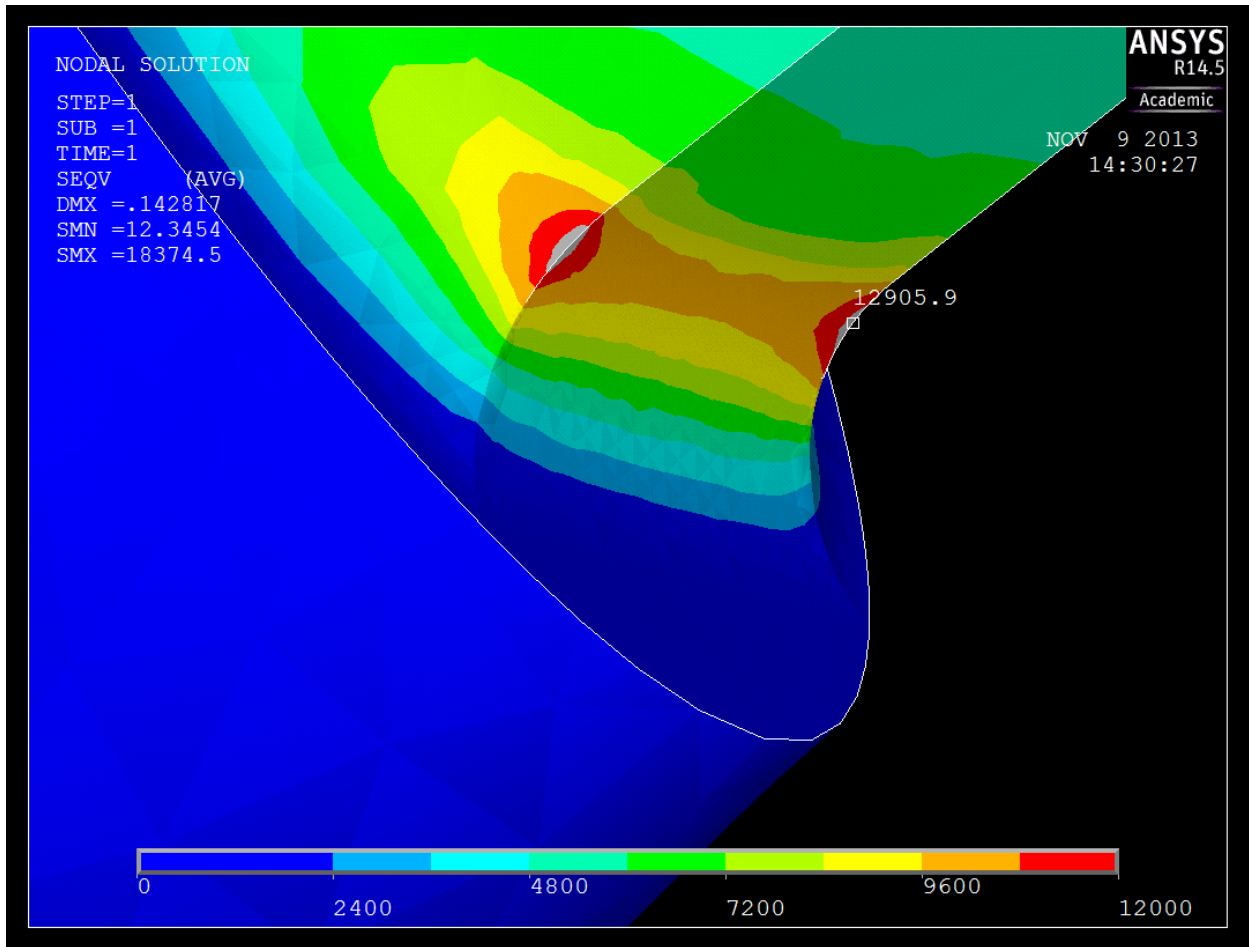
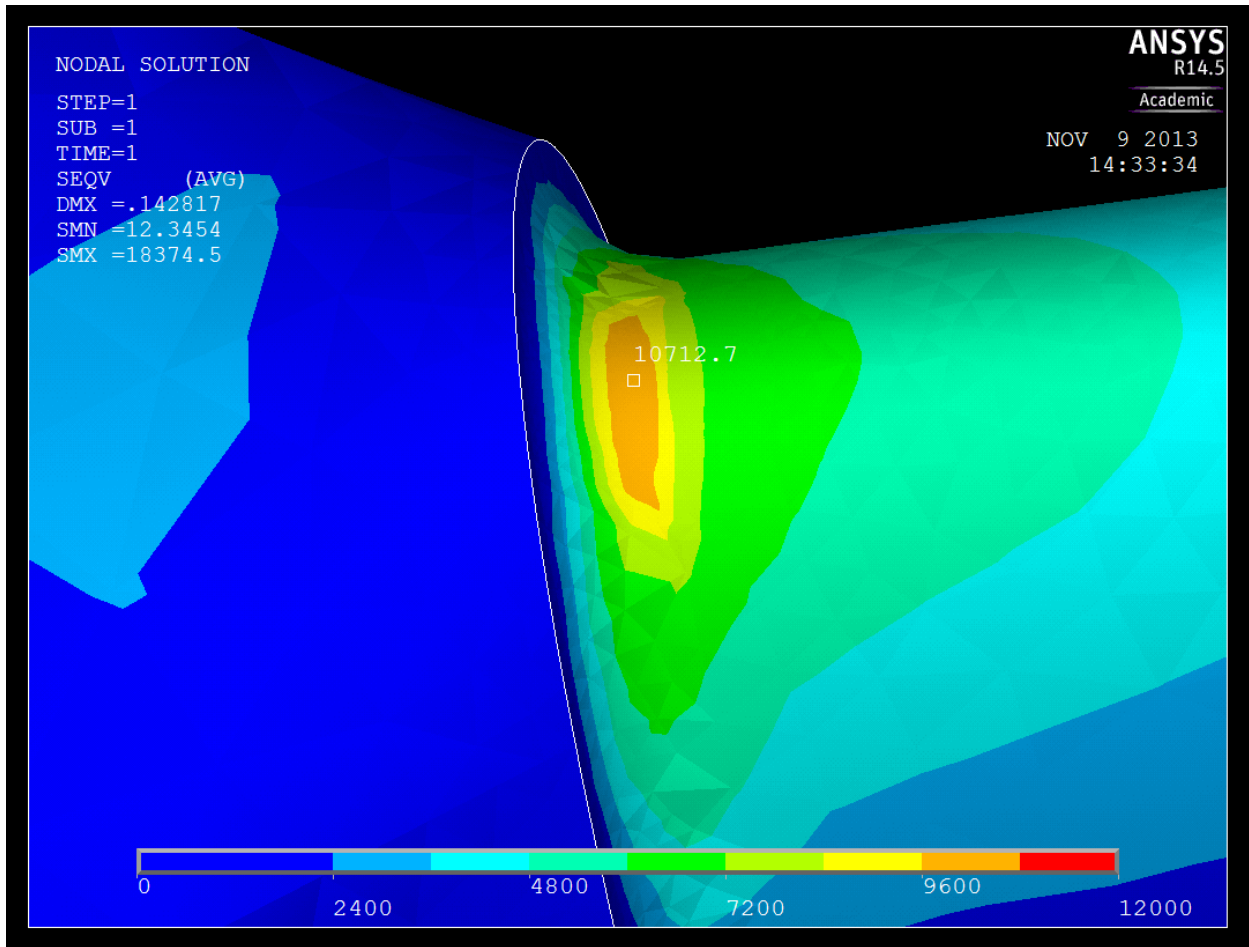


Blue Adapter:

| Stress (psi) | | | | |
|--------------|----------------|------------|----------------|------------|
| Iteration | Base of fillet | Difference | Inside of bend | Difference |
| 1 | 10090.6 | N/A | 5520.1 | N/A |
| 2 | 11307.3 | 12.057757 | 5817.65 | 5.3903009 |
| 3 | 12165.9 | 7.5933247 | 5862.19 | 0.7656012 |
| 4 | 12526.7 | 2.9656663 | | |
| 5 | 12782 | 2.0380467 | | |
| 6 | 12905.9 | 0.9622907 | | |



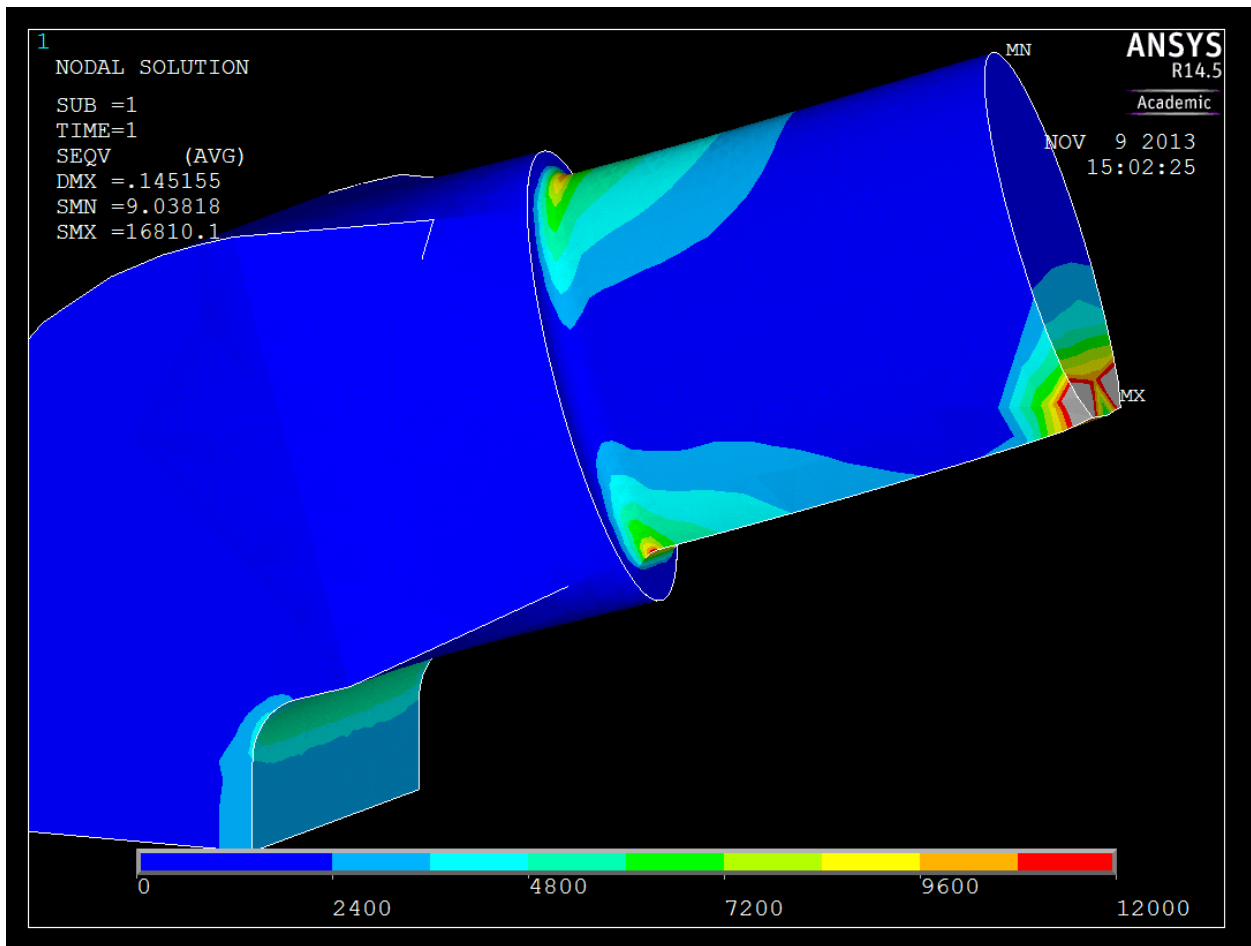


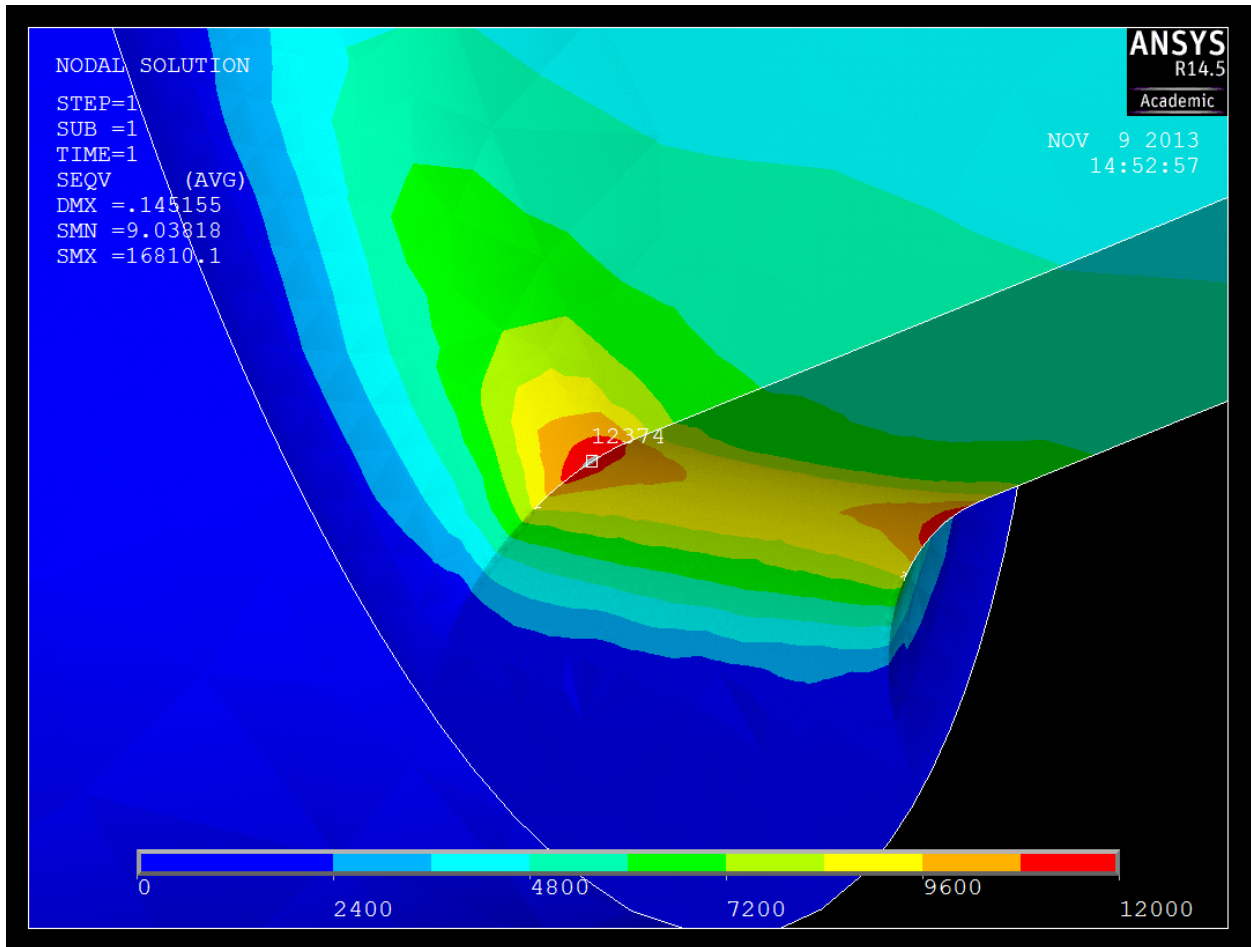


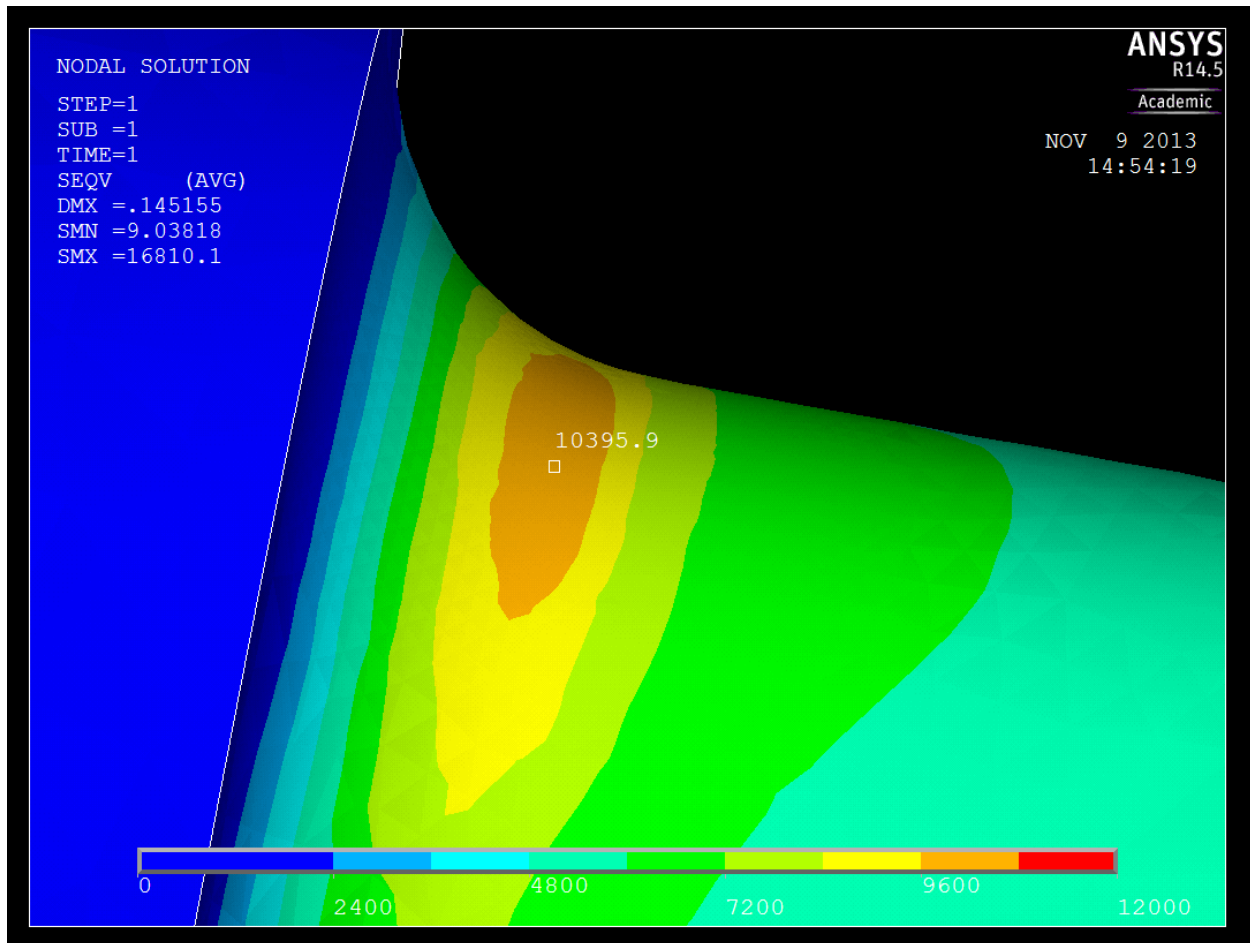
Only 2.1% off from hand calculations.
Inside bend 2.0% off of hand calculations.

Red Adapter

| Stress (psi) | | | | |
|--------------|----------------|------------|----------------|------------|
| Iteration | Base of fillet | Difference | Inside of bend | Difference |
| 1 | 10057.2 | N/A | 5009.14 | N/A |
| 2 | 11085.8 | 10.227499 | 5450.2 | 8.8051043 |
| 3 | 11712.4 | 5.6522759 | 5627.38 | 3.2508899 |
| 4 | 12084 | 3.1727059 | 5710 | 1.4681788 |
| 5 | 12265.4 | 1.5011586 | 5775 | 1.1383538 |
| 6 | 12374 | 0.8854175 | | |







Less than 1% off of hand calculations
 Inside bend 6.2% off of hand calculations.

Cost:

3-D printing all parts @ \$15/in³: \$457.50

CNC is \$95/hr of programming and machine time – does not include material cost

Best option:

Contact R82 (stander manufacturer) and get replacement adapters. Do a better job machining the parts to fit the current setup. Keep this design as a theory for the kit we would make.